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ABSTRACT

This report is the result of a field test of "Health Service Careers" curriculum materials developed and published by the Curriculum and Instructional Materials Center, Oklahoma State Department of Vocational Technical Education. The results and conclusions reported in the study relate to student achievement and teacher evaluations and comments. The study was designed to identify those concepts for which 20 percent or more of the students were not showing achievement, as measured by the students' ability to respond correctly to the test items in the curriculum manual. Overall, students in all but two schools did score 80 percent or above on all unit tests. The conclusion derived from the study is that the curriculum materials meet the needs of the instructors. They seemed to welcome the increase of matching and select-from-a-list-type questions in contrast to the profuse discussion questions in the practical nursing series. It is recommended that for future revisions more assignment sheet and job sheets be added. It was suggested by some instructors that the pronunciation of medical terms be listed beside the words themselves to aid students in the learning process. It was also suggested that charts not be used as test questions, and it was recommended that the Curriculum and Instructional Materials Center should study the first aid and nutrition units to ascertain why achievement was lower on these two units. (Author/KC)

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VALIDATION OF HEALTH SERVICES CAREERS CURRICULUM MANUAL

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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ABSTRACT

This report is the result of a field test of Health Services Careers curriculum materials developed and published by the Curriculum and Instructional Materials Center, Oklahoma State Department of Vocational and Technical Education. The results and conclusions reported in the study relate to student achievement and teacher evaluations and comments.

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INTRODUCTION

The Curriculum and Instructional Materials Center (CIMC) at the Oklahoma State Department of Vocational and Technical Education is recognized nationwide as one of the leaders in curriculum development. The CIMC has developed a large number of curriculum manuals in the past decade. These manuals have been standardized in format and are used by curriculum centers and instructors throughout the United States and in several countries.

Because teachers need to have immediate access to good curriculum materials, the CIMC developmental processes have not included a field test of materials before they are released for sale to the schools. Advisory committees composed of vocational teachers, representatives from business and industry, teacher-educators, the curriculum specialist/writer, and state and district supervisors knowledgeable in the particular occupational areas are used extensively throughout the developmental cycle to ensure the validity of the content. Past experience and feedback from teachers have given validity to the format and to the usability of the materials by both students and teachers.

This is one of a series of studies conducted to determine validity in terms of student ability to attain the performance-based objectives of the curriculum. The purpose of this study was to validate the Oklahoma CIMC's Health Services Careers curriculum manual.

DESIGN AND METHODOLOGY

Names of the Oklahoma health services careers instructors were obtained from the Health Occupations Division of the State Department of Vocational and Technical Education. Letters were sent to the instructors requesting that they indicate which units of the Health Services Careers manual they planned to teach during the 1979-80 school year and the approximate dates the units would be taught. A copy of the table of contents was enclosed for their convenience in checking the units. Responses were tabulated to identify those units which would be taught early in the school year.

Of the seventeen respondents who were telephoned to ascertain if they would participate in the field test, fourteen instructors agreed to help. A letter was then sent to each instructor explaining the field test procedures and listing the units that particular instructor had been assigned to field test. The instructors were also encouraged to send other unit tests if desired.

Each instructor collected the student achievement data in the following manner. The performance-based test which accompanied each unit in the manual was administered by the instructor to each student upon completion of the unit. The tests were graded item by item; i.e., the teacher indicated on the student's tests whether each test item was answered correctly or incorrectly. The instructor was free to add or delete test items, weight the items for a total score, or use any other procedures normally used in testing. However, the Research Unit considered only the items on the unit tests. The student's performance on each assignment sheet and job sheet was also to be recorded on the unit test. The instructors were asked to send in selected assignment sheets for which performance could be measured; e.g., one assignment sheet could be used to measure the student's ability to correctly convert Fahrenheit and Celsius thermometer readings.

Evaluation forms were provided so that the instructors could comment on the various components of the unit and on changes that needed to be made. Criticisms and suggestions were encouraged. Copies of the correspondence and unit evaluation form are included in the appendix.

As each unit was completed, the teacher submitted the unit test, assignment sheets, and evaluation form to the Research Unit. Data were keypunched and the tests and assignment sheets were returned to the teacher. Item analyses were made on the tests and assignment sheets. These analyses included frequency counts of the number of correct answers and the percentage of students having a correct answer on a given item. The results were used to help identify those items which

the students had difficulty achieving. Table 1 lists the final data collection results and indicates the number of students in health services careers at each school.

TABLE 1

PARTICIPANTS IN THE STUDY

School Number	Number of Students	Number of Units Submitted
1	26	10
2	18	6
3	10	16
4	22	6
5	37	7
6	38	7
7	21	7
8	25	8
9	12	4
10	16	4
11	11	7
12	10	3
13	14	7
15	25	3

UNIT TEST RESULTS

All but one of the units will be discussed in terms of student achievement. The observation and recording unit did not have enough student participation to make an analysis feasible. Teachers' comments for each of the units will be presented at the end of this section. The unit tests are broken down item by item in the appendix to show the percentage of correct responses. Forms showing student achievement on each item by school are available from the Oklahoma Research Coordinating Unit.

It was determined arbitrarily that 80 percent of the students should answer the item correctly to demonstrate acceptable achievement of the concept being measured. Those concepts which students had the most difficulty achieving will be examined in the discussion of each unit. It is beyond the scope of the study to identify the reasons why students fail to achieve on a given concept.

Health Careers

Overall achievement was 86.9 percent. The most difficult question, as evidenced by the 24.2 percent response rate, was to describe job tasks of inhalation therapists. The low achievement could have resulted from the strict scoring criterion. In order to have the question counted correct, all of the job tasks listed in the information sheet had to be included. The students' responses were counted incorrect whether they correctly described all but one of the job tasks or could not describe any of them. Many students incorrectly chose diagnosis of disease conditions as a task that medical laboratory workers are qualified to perform. It may have been assumed by the students that by testing, identifying, and analyzing body fluids and tissues, blood, and other substances, a diagnosis would have been prompted. The students were able to name one business or administrative occupation within the hospital but not a second one. Other test items were missed by students at one school but not at the others. The assignment sheets were completed to the satisfaction of the instructor at one school; there was no response from the other schools.

Career Success

An 89.9 percent correct response rate was achieved on this unit. The test item that was missed most often was related to dressing for an interview. More than half of the students felt it was appropriate to dress to fit the salary range above the one in which they expected to be employed. It is unknown whether the students scanned only the beginning of the statement or if they felt like it actually was a correct statement. Another test question which elicited a low response

rate asked the students to distinguish among operations of employment services. The low achievement (61.8 percent) resulted because the students were required to list two answers on one item before it was counted correct. One instructor required the students to list only four of the eight sources for locating employment opportunities; students at another school could list only three of the eight sources correctly. Students at two of the schools had trouble discussing ways to increase self-satisfaction in a career, which caused the overall achievement to be 67.4 percent. Students at one of the schools completed all of the assignment sheets to the satisfaction of the instructor. Two instructors did not respond as to the use of the assignment sheets at their schools. Students at a fourth school performed satisfactorily on all of the assignment sheets they used except when writing a letter of resignation. Only 64.3 percent could write one satisfactorily.

HOSA

Overall achievement was 87.2 percent. Students at one school were given an open book test so the data from that particular school was not used in the item analysis for this unit. The lowest achievement occurred when the students completed a chart showing leadership training activities for HOSA. Percent correct ranged from 32.1 to 60.7. More than likely this resulted from the format of the question. One-fourth of the students did not know that parliamentary procedure was based on majority rule. Only one-half of the students selected expedition of business as a basic purpose of parliamentary procedure. The students may not have known the definition of expedition. Eighty percent of the students could name one type of chapter activity, but achievement dropped when they attempted to name more than one. Naming four essentials of a good HOSA chapter elicited responses of 64.3 to 78.6 percent.

Confusion resulted when the students tried to match historical dates to important Oklahoma Association of HOSA events. However, acceptable achievement was obtained when the students matched historical dates to important HOSA events. The reason for this inconsistency is unknown. Only 46.4 percent of the students knew that one purpose of the HOSA organization was to promote the establishment of local Oklahoma Association of HOSA. The assignment sheets related to evaluating chapter meetings and using parliamentary procedure were not used at one school; all but one of the students could recite the Oklahoma Association of HOSA creed. Students at another school were to have used the evaluation of chapter meetings later in the year. The instructor did not respond about the other two assignment sheets. There was also no response from another instructor on any of the assignments in this unit.

Personal Health

Overall achievement was 87.5 percent. Matching mental (defense) mechanisms to their correct definitions posed a problem for students at all three schools. Almost nine-tenths of the students could match identification with its definitions but achievement on the rest of the mental mechanisms ranged from 54.8 to 71.0 percent. They could correctly list only one of four ways to prevent an emotional problem. One of the test items was incorrectly stated--the students were told to select essentials of well-groomed hair from a list but the list that was provided was for selecting causes leading to mental illness. Two of the instructors did not use the test question at all; the instructor at a third school corrected the question before the test was given. Less than two-thirds of the students could correctly match the term psychosis to its correct definition. The term neurosis also caused problems. Over 20 percent of the students incorrectly marked "weekly bath or shower" as an essential of body cleanliness. Students at one school completed the assignment sheets satisfactorily, but there was no response from the other two instructors.

Community Health

Overall achievement was 91.4 percent. Only one test item was missed by students at both schools--the definition of Public Health Service averaged 72.4 percent correct responses. Completing a chart on types of birth control and their advantages, disadvantages, and effectiveness proved difficult at one school. It was the only other test question which elicited responses of less than 80 percent at that school. None of the assignment sheets were used at one school; there was no response from the other instructor.

First Aid

Overall achievement was 78.4 percent. Correct responses ranged from 25.0 to 54.2 percent when the students were asked to complete a chart on symptoms and treatment for types of drug overdose or abuse. Arranging in order the actions to take when giving first aid elicited responses of 45.8 to 79.2 percent. Obviously, if one step is listed out of sequence some of the others will be also. However, it is imperative that first aid be given appropriately in an emergency.

Students at one school achieved less than 75 percent on twelve of the twenty-four first aid terms. Abrasion and contusion were confused by several of the students in both schools. Only 62.5 percent could describe care given to a victim with a bite wound; less than 42 percent could describe first aid given for contact poisoning. The terms narcotics and depressants were not easily differentiated by the students. Matching first, second, and third degree burns to their correct treatments perplexed the students, more than likely because they confused the severity of the third and first degree burns. All of the students who completed the assignment sheets and job sheets did them satisfactorily.

Microbiology

This unit ranked highest in overall achievement with 95.8 percent correct responses. None of the test items were missed by all three schools. Students at one school had trouble distinguishing between aerobe and anaerobe when matching terms and definitions. The assignment sheet was not used by two instructors; it was used in the third school but the students' performance is unknown.

Basic Concepts of Physical Sciences

Overall achievement was 86.7 percent. Since one instructor gave the students an open book test, that school's scores were not used in the item analysis for this unit. The most difficult question was the classification of states of matter; e.g., solid, liquid, gas. The responses ranged from 71.4 for gas to 49.2 percent correct for liquid. Nine of the terms resulted in less than 80 percent achievement. Element, mineral salts, distribution, and physics were the terms most frequently missed. Production of neutral ionized particles in body fluids was incorrectly chosen as a function of mineral salts by 40 percent of the students. Students at one school classified the pH of solutions as a group; there was no response from two schools. Students at a fourth school classified them satisfactorily.

Endocrine System

Overall achievement was 81.2 percent. Completing a chart of major endocrine glands and their hormones and functions caused the achievement rate of four of the schools to go below the 80 percent standard. The test question was omitted by another instructor, but the students could complete the chart for extra credit. Responses ranged from 51.4 to 76.8 percent when the students were asked to name major factors which contribute to the development of diabetes mellitus. They could satisfactorily match only one of the four disorders of major endocrine glands to the correct description. The terms diabetes mellitus and tetany caused difficulty. Diabetes insipidus did not cause as much difficulty as the other two terms, but it could have been confused with diabetes mellitus by some students. The assignment sheets were not used at one school; there was no response from two schools. Students at three schools completed them to the satisfaction of their instructor.

Genitourinary System

Overall achievement reached 84.9 percent. This unit had the longest test of all the units in the manual. In some instances, the test was given in two parts but it did not appear to raise the overall achievement for the particular schools. Endometrium and broad ligament were the terms that seemed to be most difficult. Identifying the seminal vesicle on a diagram of the male reproductive system caused a problem for half of the students. Because of the location of the arrow, the students either overlooked item "d" completely or they mistakenly thought it pointed to another part. Identifying the internal organs on

a diagram of the female reproductive system also created low achievement. There were four more blanks for identifying parts of a breast than there were parts to label. This was brought to the attention of the students by all of the instructors prior to the test.

The assignment sheet was not used in four schools; there was no response from the two other schools in regard to the assignment sheets or job sheets. The job sheets were completed to the satisfaction of the instructor at the other four schools. The students scored higher on the questions relating to the urinary system than they did on those pertaining to the reproductive system.

Respiratory System

Overall achievement was 91.0 percent. Only three test items fell below the 80 percent standard overall. A 78.1 percent response was obtained when the students described the structures of the lungs. One instructor did not ask the students to name the principles of oxygen administration. Students at the other schools could name only three principles satisfactorily. The students at one school were not required to identify structures of the respiratory system as shown in a diagram; students at another school averaged 33.3 to 66.7 percent on their responses. Overall responses for all of the schools were above 84.0 for this particular test question, however. Students at one school completed the assignment sheet to the satisfaction of the instructor. Students at another school were not required to write an essay on aspects of the respiratory system. The other instructors did not respond. The job sheets were performed satisfactorily at three of the schools. There was no response from the others.

Musculoskeletal System

The overall achievement rate was 83.0 percent. Two of the lowest response rates occurred when the students discussed care of patients in traction (56.0) and care of patients in casts (59.2). Responses ranged from 50.7 to 77.5 percent overall when the students were asked to identify principle muscles as shown in a diagram. They did not encounter as much difficulty when they identified bones on a diagram. Out of twenty-nine bones to be labeled, eleven of them were identified incorrectly by one-third or more of the students. Distinguishing between ways to maintain the muscular and skeletal systems was missed by 50 percent of the students on three of the items because two answers were required. The students had been told in the directions that some of the statements might have more than one answer.

The job sheets were performed as group activities at one school. The students performed them satisfactorily at two schools. There was no response at two other schools.

Nervous System

Overall achievement for this unit was 93.0 percent. The students could correctly list three of the five functions of the nervous system. Only three-fourths of the students could describe the protection of the central nervous system. The students also seem to have trouble listing more than four items of information on any given question. Discussing the sense of taste rated a 46.7 percent response; discussing the sense of smell rated 62.2 percent correct responses. All of the assignment sheets and job sheets were performed satisfactorily.

Digestive System

An 82.9 percent response was achieved on this unit. The majority of the questions that were difficult for the students asked them to name items of information. Out of eleven "naming" test questions, the students could complete only one of them satisfactorily--naming the salivary glands. The other ten questions may have had a higher response rate if they had been written as select-from-a-list or multiple-choice questions. One instructor only used seven of the questions on the unit test and none of the job sheets. Two other instructors did not respond as to whether the job sheets were used. Students at the other two schools completed the job sheets to their instructors' satisfaction.

Circulatory System

Overall achievement was 86.6 percent. Fifty percent of the students incorrectly selected from a list the statement that transportation of waste products from endocrine organs is a function of the circulatory system. Students at three schools also incorrectly selected transportation of nerve impulses as another function. It is unknown why students scored high on the other items for that particular test question. Perhaps they scanned the two statements rather than actually reading them before they marked an answer. The students could not identify one-third of the structures of the heart nor one-half of the major veins and arteries of the human body. A response rate of 65.6 percent was obtained when the students discussed the Rh factor. One school did not use five of the questions and the students scored slightly below the 80 percent standard on the remaining questions.

Two of the schools had 100 percent completion of all eleven of the job sheets. Students at another school used the job sheets as group activities. There was no response from a fourth school. Job Sheets #1, #6, #8, #10, and #11 were completed satisfactorily at another school; the rest were to be used later in the year.

Nutrition

Overall achievement was 79.9 percent. Only one of the four schools that field tested the unit obtained an overall achievement above 73 percent. The most frequently missed question asked the students to complete a chart on therapeutic and modified diets. Responses ranged from 9.1 to 86.1 percent at two of the schools. One instructor did not

use this question and another instructor was going to use it later in the semester. Two instructors did not use the unit test in entirety. Questions 4, 7, 9 through 13, and 15 through 22 were not used at one school. Questions 15, 16, and 18 were not used at another school, and questions 19 through 22 and the assignment sheets and job sheets were to be used later in the school year. The definition of hydrochloric acid caused some difficulty at three of the schools.

Only one-half of the students could name a fourth reason why good nutrition is essential. Less than one-half of the students at two of the schools could name the appropriate number of calories in one gram of protein, carbohydrates, and fat or match the nutrients to the correct percentage of each that is needed in the daily diet. This unit proved difficult for three of the four schools. If the instructors had required that all of the questions be answered, more than likely the achievement would have been lower per school as well as overall for all of the schools. One instructor scheduled the assignment sheets and job sheets for later in the year; there was no response on the assignment sheets from a second school but the job sheets were completed satisfactorily by all the students. Students at a third school completed all of the assignments and job sheets satisfactorily. At a fourth school, the students satisfactorily wrote menus for one week and made food posters; however, they were not asked to write an essay on nutrition, measure intake, evaluate feeding a visually handicapped person, or give tube feedings. They planned to serve and assist at mealtimes and feed another person at a later date.

Patient Cleanliness

The students achieved 89.8 percent on this unit. This was one of the shortest unit tests in the manual. The only test question which ranked below 80 percent in achievement asked the students to distinguish when procedures included in patient care should be done--morning or evening. If the procedure could be done at either time, both answers were required for the item to be counted as correct. Two of the items required both answers and subsequently fell below the 80 percent achievement standard. There may be some controversy among health care facilities as to when mouth care should be given; one-third of the students missed this question. Two other items caused confusion because of their similarity--providing fresh drinking water unless contraindicated and providing fresh drinking water.

Students at one school completed the first six job sheets satisfactorily and used those concerning shampooing hair, shaving a patient, and giving care to an incontinent patient as group activities. There was no response about the job sheets at another school. At a third school two of the job sheets were to be done later; the rest were performed to the instructor's satisfaction. At a fourth school, the students satisfactorily gave a complete bed bath, gave a back rub, assisted with mouth care, and combed a patient's hair; their instructor did not respond about whether they performed the other job skills. Four of the job sheets (#2, #3, #7, and #8) were not used at all; the rest were

performed satisfactorily by a few of the students and were not used by the remainder of the class.

Patient's Environment and Bedmaking

Overall achievement was 93.3 percent. Data on the third and fourth test questions were considered invalid for one school and were not used in figuring the achievement levels for those items. Overall, the students had problems listing more than five safety measures that are responsibilities of health assistants. Students at one school confused the modified Trendelenberg and the Trendelenberg. One instructor did not require her class to identify the modified Trendelenberg. Discussing the use of body mechanics in bedmaking proved difficult for approximately one-half of the students at one school but the rest of the schools achieved 80 percent or above. Three schools showed 100 percent achievement on the job sheets; there was no response from two other instructors. Students at a sixth school could set up a unit satisfactorily but only three-fourths of the students could make an unoccupied bed, an open bed, an occupied bed, and a postoperative bed. In setting up a unit, the students were required to make an open or unoccupied bed so it is puzzling that they could perform the skills on Job Sheet #4 but could not make the bed correctly using Job Sheet #1.

Body Mechanics and Positions

Overall achievement was 88.6 percent. Describing the development and treatment of contractures proved difficult for students at four of the five schools, with achievement ranging from 8.3 to 73.5 percent. Overall achievement for the question for all five of the schools was 55.7 percent. It should be emphasized that this type of question is counted wrong if any portion is incorrect. No allowances were made for partial credit. Stating a fourth nursing measure that may prevent or decrease effects of immobility on the body caused three of the five classes to fall below the 80 percent standard. The answer sheet incorrectly stated that providing hypostasis was a reason why health assistants should use proper body mechanics. The overall achievement on that particular question was 51.1 percent; two schools lowered the average response considerably. It is unknown whether data from these schools was computed using the incorrect answer and therefore the validity of these results is questionable.

The only term that confused the students was peripheral. Less than 80 percent of the students at four schools could match the term with its correct definition. The students confused the dorsal recumbent position and the horizontal recumbent or supine position when they were asked to identify various body positions. Students at one school performed the job sheets as group activities; there was no response from two instructors. Another class applied various restraints as a group activity and performed individually to the satisfaction of the instructor on the rest of the job sheets. At a fifth school, all of the job sheets were performed satisfactorily.

Vital Signs

Overall achievement was 93.0 percent. Only two test items fell below the 80 percent standard. One school brought the average down when the students were asked to indicate which condition warranted taking a temperature orally. The students were asked to list five conditions which warranted taking the temperature rectally; less than three-fourths of them could list a fifth. Three of the possible answers were given in another section of the chart.

The assignment sheets were completed satisfactorily by over 95 percent of the students. One instructor gave no response as to whether the job sheets were used. One class used the job sheets related to oral, axillary, and rectal temperatures as group activities; the rest of the job sheets were performed satisfactorily by all of the students individually. Students at the other schools also performed the job sheets to the satisfaction of their instructors.

Medical Asepsis

Overall achievement was 92.2 percent. Only one item fell below 80 percent--listing a fifth rule for aseptic care of equipment--although two of the schools had trouble listing more than one or two rules. Three schools fell below 80 percent when matching the term sterile to the correct definition. Two instructors gave no response as to whether the assignment sheet and job sheets were used. Students at two of the schools made 100 percent on the assignment sheet and satisfactorily demonstrated using proper handwashing technique. One class cleaned a patient's unit, Job Sheet #2, as a group activity. Ninety percent of the other class satisfactorily demonstrated the ability to clean the unit.

Surgical Asepsis

Overall achievement of 88.9 percent was obtained on this unit. The terms surgical asepsis, disinfection, and sterilization were difficult for the students to match with the correct definitions. Seventy-one percent of the students could discuss reasons for maintaining aseptic techniques. There was no response from one instructor concerning the job sheets. All of the students at one school who attempted the job sheets performed the skills satisfactorily; however, the performance of the other six students is unknown. At a third school one-third of the students completed the job sheets and averaged 87.5 percent; the performance skills of the other students are unknown.

Isolation Technique

Overall achievement was 91.7 percent. The students at two schools had trouble naming a third way to prevent the spread of disease. They also had problems naming more than two general principles of isolation. Responses ranged from 75.0 to 61.9 percent at three of the schools when the students were asked to discuss the health assistant's responsibilities to meet the emotional needs of an isolated patient. The instruc-

tor of the class with the highest overall unit average did not respond about whether the job sheets were used. Students achieving the second highest on the unit overall scored lowest (54.2 percent) on the performance objectives. The other schools had 100 percent achievement on the job sheets. It would appear that the cognitive theory was not a prerequisite for accomplishing the performance skills.

Summary of Overall Achievement

Table 2 displays the percentages of correct answers on the unit tests by unit, by school, and by total across schools. Those units which were field tested by less than fifteen students have been omitted from the total columns. The total for all schools indicates that on only two of the twenty-three units that were analyzed, students failed to reach the arbitrarily set 80 percent level. This analysis is useful in the total evaluation of the curriculum manual as a whole; however, it fails to take into account the concepts being learned--how important they were in relation to the performance, how difficult they were to grasp.

TABLE 2
PERCENT CORRECT BY UNIT BY SCHOOL

UNIT	All Schools	School 1	School 2	School 3	School 4	School 5	School 6	School 7
I-A	86.9	94.7	-	96.9	-	-	80.5	-
II-A	89.9	-	-	98.5	-	88.3	86.4	-
III-A	87.2	87.2	-	87.3	-	-	99.2	-
I-B	87.5	95.7	-	87.6	-	-	82.7	-
II-B	91.4	92.2	-	83.9	-	-	-	-
III-B	78.4*	-	-	-	-	-	-	-
I-C	95.8	94.4	-	-	-	-	-	95.8
II-C	86.7	92.3	-	-	79.1*	-	98.9	86.4
III-C	81.2	-	-	77.6*	90.9	-	-	-
IV-C	84.9	-	-	97.3	-	81.1	-	-
V-C	91.0	-	98.0	86.0	80.0	-	-	-
VI-C	83.0	79.0*	-	87.0	-	-	-	-
VII-C	93.0	-	-	-	-	-	-	-
VIII-C	82.9	-	99.9	-	-	-	69.6*	-
IX-C	86.6	-	96.3	-	-	84.8	-	-
I-D	79.9*	-	-	-	-	-	-	72.1*
II-D	89.8	93.7	-	89.7	-	-	-	80.9
III-D	93.3	-	95.6	96.0	-	97.1	88.6	86.8
IV-D	88.6	87.1	97.7	86.4	-	90.0	-	-
V-D	93.0	-	-	95.8	-	93.7	-	-
VI-D	92.2	91.9	100	91.4	87.7	-	-	-
VII-D	88.9	-	-	100	88.9	-	-	87.4
VIII-D	91.7	-	-	99.4	97.5	93.8	-	80.0
IX-D	N/A	-	-	-	-	-	-	-

Table 2, Percent Correct By Unit by School (Continued)

UNIT	All Schools	School 8	School 9	School 10	School 11	School 12	School 13	School 15
I-A	86.9	-	-	-	-	-	-	-
II-A	89.9	-	-	96.2	-	-	-	-
III-A	87.2	-	-	-	-	-	-	-
I-B	87.5	-	-	-	-	-	-	-
II-B	91.4	-	-	-	-	-	-	-
III-B	78.4*	-	-	71.9*	91.4	-	-	-
I-C	95.8	-	-	99.2	-	-	-	-
II-C	86.7	-	-	-	-	-	-	-
III-C	81.2	-	79.1*	-	89.5	58.3*	80.7	-
IV-C	84.9	87.0	-	-	81.6	72.8*	90.1	-
V-C	91.0	92.0	-	-	-	-	93.0	-
VI-C	83.0	90.0	66.6*	-	91.0	-	-	-
VII-C	93.0	94.0	-	-	95.0	-	89.0	-
VIII-C	82.9	93.1	-	-	77.2*	35.7*	-	-
IX-C	86.6	94.8	-	-	80.3	-	76.9*	-
I-D	79.9*	90.2	68.3*	-	-	-	71.6*	-
II-D	89.8	-	-	89.4	-	-	-	92.6
III-D	93.3	-	-	-	-	-	-	96.1
IV-D	88.6	-	-	-	-	-	-	86.7
V-D	93.0	95.2	-	-	-	-	-	90.8
VI-D	92.2	-	-	-	-	-	-	-
VII-D	88.9	-	-	-	-	-	-	-
VIII-D	91.7	-	-	-	-	-	-	-
IX-D	N/A	-	74.2*	-	-	-	-	-

TEACHER COMMENTS

The participating instructors were sent evaluation forms asking for their opinions on the different components in the unit. All of their comments are listed below. A number in parentheses following the statement indicates the number of teachers who made that comment. A copy of the evaluation instrument is included in the appendix.

Health Careers

Very elementary, but good.
Unit gives good introduction to health careers.
Used suggested activities in part.
Assignment sheets were especially helpful in getting students to take a closer look at themselves.
Effective in helping students to learn.
Facilities and equipment were readily available or unnecessary.
Current/up-to-date.
Written in logical order.
Thought-provoking.
Motivating.
Needed for successful employment.
Easy for teacher to use.
Each student made a report on a chosen career.
Suggested ideas were very good.
Information sheets and assignment sheets were very good.
No changes are needed. Unit was well-prepared.

Career Success

Effective in helping students to learn. (2)
Written in logical order. (2)
Answers to assignment sheets, test, and answers to test were easy for teacher to use.
I was satisfied with the information. I did, however, supplement quite a bit on this unit. The unit was a good basic guide.
Used suggested activities and assignment sheets in part.
This was a very good unit.
Unit was effective in assisting the students to actually write letters and resumes for on-the-job training.
Many of the students made copies of the resumes for future use.
Complete.
Thought-provoking.
Used assignment sheets in part.
Motivating.
Easy for teacher to use.

Confident of technical knowledge myself.
This unit has been needed.
Students enjoyed this unit.
Got information from newspapers.
Called employers and discussed jobs.
Director of hospital personnel spoke to the class.
Assignment sheets were easy to do.
Students graded their own tests.

HOSA

Used suggested activities and assignment sheets in part; will use evaluation of chapter meeting and effectiveness of parliamentary procedure later in year.
I think these tests are good. They provide variety.
Colors on emblem are not as emblem actually appears.
Effective in helping students to learn.
Complete.
Well-sequenced.
Thought-provoking.
Sort of motivating.
Easy for teacher to use.
Confident of technical knowledge myself.
I will use Assignment Sheet #2 to evaluate each chapter meeting.
Gave the students an open-book test. Students aren't that interested in HOSA at this time. I used test as a learning situation. I will give another test on unit at end of year.
The unit is informative and educational as is.

Personal Health

Used suggested activities in part.
Question 13 is written incorrectly.
I would like to see more detail about causes and prevention of disease--either in this unit or the one on community health.
Effective in helping students to learn.
Facilities and equipment readily available or unnecessary.
Have adequate or abundant resources.
Complete.
Written in logical order.
Motivating.
Needed for successful employment.
Easy for teacher to use.
Confident of technical knowledge myself.
Used Merle Norman presentation.
Students grade own tests in red and correct own mistakes in red.
Used Modern Health.

Community Health

Used suggested activities and assignment sheets in part.
I would like to see more devoted to personal and community health.

I don't feel this is covered adequately in the curriculum.
I realize we can add more from other sources, but I would like to see more in the curriculum materials.

First Aid

Effective in helping students to learn.
Information sheets, test, and answers were complete.
Assignment sheets were thought-provoking.
Job sheets were easy for teacher to use.
Students enjoyed this unit, but they would rather have an easier test.
Used unit in part; have better materials available.
I use "The American Red Cross Multi-Media System for Standard First Aid." We had completed the course when the checklist arrived to return the tests. I then asked the students to read the curriculum unit and take the test. I have included the multi-media test for comparison.
Test is time-consuming to grade. Discussion questions cannot be graded in class.

Microbiology

Good unit; very basic.
Used suggested activities in part.
Didn't use assignment sheet.
Used unit in part.
Transparencies are good.
Added hepatitis to question 8.
Please associate vibrios and spirilla so students can understand families of microbiology.
Effective in helping students to learn.
Facilities and equipment were unavailable or inappropriate for completing suggested activities and assignment sheets.
Students were very interested in information.
Test and answers were easy for teachers to use.
No suggestions for changes in unit at present.

Basic Concepts of Physical Sciences

Good unit.
Used suggested activities and assignment sheet in part.
Effective in helping students to learn.
This is a difficult unit for students to understand.
Transparencies, assignment sheet, test, and answers are easy for teacher to use.
Need more assignment sheets--on diffusion, osmosis, etc.
I wasn't in class during the testing or instruction of this unit, but most of my students thought it was very hard.
Ineffective in helping students to learn.
Facilities and equipment were unavailable or inappropriate.
Too difficult for students.
Unstimulating/unimaginative.

Unmotivating.
Used open book test; material is equivalent to college chemistry.
Material is too difficult for health careers. Time is too short for lesson to be taught properly. However, I think it is good for students to be aware of this type of information and I will use the unit next year.

Endocrine System

Information sheets were thought-provoking.
Used suggested activities in part.
Unit was very well covered.
Unit of instruction was complete.
Suggested activities and transparency were effective in helping students to learn.
Used suggested activities in part.
Test was written in logical order.
Test was too long.
Answers to test were easy for teacher to use.
Information sheets, test, and job sheets were effective in helping students to learn.
Information sheets and job sheets were easy for teacher to use.
Good unit.
Students as a whole found the unit to be a valuable learning tool.
Unit was effective in helping students to learn. (2)
Objectives page and information sheet were written in logical order.
I used additional questions from Modern Health by Otto, Julian, and Teter.
Good vocabulary included in information sheet.
I like transparencies.
Didn't use job sheets. They are out-of-date with our hospital; we use only finger stick blood sugars.
Test is much better than those used previously.
The test questions that required the student to "list" were much more clear. It was not difficult to differentiate the desired answer from another.
This has been the best unit so far.
I would like some "fun" suggestions for this unit.
Suggested activities were easy for teacher to use.
Job sheets, test, and answers were complete.
Students enjoyed this unit.

Genitourinary System

Unit was effective in helping students to learn. (2)
Assignment sheet was thought-provoking.
Transparencies and job sheets were effective in helping students to learn.
Test was too long.
Answers to test were easy for teacher to use. (2)

Students gave oral reports on reproductive system instead of writing essays.
Didn't use assignment sheet; I used wall chart with lecture.
I suggest each medical term have beside it the pronunciation from the medical dictionary. We have students who have reading problems.
Test was easy for teacher to use.
Very satisfied with unit.
Test was given in two parts.
Used suggested activities in part.
Didn't use assignment sheet.
Unit was complete. (2)
I tested the students over the urinary system earlier in the year; therefore, I let that part of the test be used for extra credit. Some students did not take advantage of this opportunity.
Found mistake on answers--question 8, part t.
Thought unit was good.

Respiratory System

Unit was complete.
Suggested activities are the best available material.
Information sheets, transparencies, job sheets, and test are effective in helping students to learn.
Information sheets were written in logical order.
Transparencies, job sheets, and answers were easy for instructor to use.
No suggestions for changes; good unit.
This system was covered very well in the curriculum guide. Only a minimal amount of work had to be done outside the textbook.
Unit of instruction was too difficult.
Used suggested activities and job sheets in part.
The students were allowed to omit two test questions of their choice.
Didn't use assignment sheets; used wall chart and lecture instead and added corresponding test questions.
All students in this class agree that word pronunciation should be added at the end of each medical term.

Musculoskeletal System

Used suggested activities in part.
Perhaps this unit could be divided into two units--muscular system and skeletal system. It would be easier for the students on the tests to name each (bones and muscles) at a different time.
Unit was written in logical order.
Used suggested activities in part. (2)
We invited a physical therapist from a large hospital to discuss physical therapy with the class.
Could use some motivational "games".
Information sheets serve as a very good study guide.
Transparencies are easy for teacher to use.
Would like some suggestions for assignments. This is not one of my favorite units and therefore is difficult to teach.

Job sheets--have better materials available; use Trainex filmstrip "Exercise to Prevent Contractures."
Test is perhaps a little too detailed for a health services careers class; but it's better than the nutrition test.
For me to teach this unit with any enthusiasm, I need audio-visuals.
I'd like to see some "entertaining" assignment sheets to challenge the students' interest.
Unit was effective in helping students to learn. (2)
Objective page was too difficult.
Information sheets were current.
Transparencies were complete. (2)
Used test as a work sheet.
Learning all the muscles and bones at one time seems to upset most of the students. You might try making them each a unit back to back.
Mistake on answers to test question 2--parts d and e are switched. (3)
Unit was complete.
Suggested activities were easy for teacher to use.
Students felt this was too much information for one unit. They would like to have it broken down. I did break it into two units.
All medical terms need pronunciation written beside them because some students have reading problems and the medical terms are new to high school students.

Nervous System

Effective in helping students to learn (2).
Students didn't like the essay questions. They wanted true-false, multiple-choice, and matching questions.
Good unit.
Complete. (2)
Written in logical order.
Job sheets, test, and answers were effective in helping students to learn.
I divided this unit in half because some of the students had a lot of difficulty with it even though we spent a long time on the unit.
Needs medical pronunciations.
Overall, I like the book.

Digestive System

The unit was too complicated for as much material as needs to be covered.
I gave test in two parts--the first test covered questions 1, 2, and 3; the second test covered 10, 11, 12, and 13. The other objectives were written from the book.
I used parts of the unit. (2)
Didn't use transparencies.
Unit was ineffective in helping students to learn.
Too difficult.
Unstimulating/unmotivating.
Unnecessary.
Difficult for teacher to use.

Lack technical knowledge/background/work experience.
This is LPN material--too complicated.
Effective in helping students to learn. (3)
Information sheets, transparencies, test, and answers were complete.
Job sheets were easy for teacher to use.
Test was too hard for students (they thought).
Unit was complete.
Students attended ostomy workshop.
Test was too long.
Answers to test were easy to use.
Need pronunciation for all medical terms.
I used this unit and the Nursing I unit.

Circulatory System

Used suggested activities in part. (2)
Didn't use job sheets; used my large progress chart which is synonymous to job sheet except all students are able to see their progress in reference to entire class.
On question 21 I'm almost positive you have those answers turned around (f and g). (3)
This was an extremely long test, but it was a good review for them. I also give them the Nursing I unit exam on the circulatory system.
Unit was effective in helping students to learn. (3)
Used job sheets in part; slightly ahead of skills progress.
Information sheets are very informative and helpful.
Test was too difficult.
I believe that the test was too comprehensive for my average students. Some of them experience great difficulty in taking tests if they are confronted with too much material at one time. I would have given hot and cold applications on a separate test and maybe the terms associated with the blood also.
Used material from American Health Association for activities.
Used wall chart, lecture (cassette), and true-false test.
Answer to question 1g is wrong.
Put pronunciations next to medical terms.
Unit is complete.
Information sheets and transparencies are easy for teacher to use.
Made man (heart and major veins and arteries) with masking tape on floor and walked through the blood flow.
Students enjoyed working on this unit.
Very interesting.
Information sheets were incomplete.
Information sheets and answers were easy for teacher to use.
Job sheets were complete.
The note written under the definition of atrium is wrong in regard to circulation through heart.
Supplemented information with lecture and notes.
Description of leukocytes and platelets is confusing to students, especially on the test.

Nutrition

Used Trainex film, "Feeding the Patient".
Effective in teaching concepts. (3)
Too difficult.
Information sheets were complete, current, and well-sequenced.
Used assignment sheets in part.
Job sheets will be used later.
Test was too difficult.
Students had an unusually large amount of difficulty with this unit. The latter part of the test is being saved for use at a later date. I'm still studying as to why this unit was so difficult.
The students, as a whole, found this unit rather uninteresting.
Suggested activities were very helpful to instructor.
Used parts of suggested activities and information sheet.
Students did individual and group research. They also had assigned readings.
All of the assignment sheets were utilized; good experiences.
Job sheets were needed for successful employment.
Test question 19 was too difficult.
Other test items were used for research.
Answers to test were easy for instructor to use. (2)
No suggested changes at present.
Objectives page helps students to set learning priorities.
Suggested activities were easy for teacher to use.
Information sheets were logically written; very comprehensive.
No transparencies; would use some to illustrate vitamins.
Assignment sheets were thought-provoking and motivating; used only part of them due to lack of time.
Haven't used job sheets yet but will use them in future; will not teach tube feedings.
Test was too difficult; too comprehensive. It's written in difficult style; phrasing is confusing.
I am very impressed with this unit. However, I prefer a different style of testing with multiple choice and true-false questions included.
I use very few fill-in-the-blank questions to prevent memorization.

Patient Cleanliness

Used suggested activities in part.
Good unit. (2)
So glad job sheets can be removed and used at the bedside.
Need illustration of comatose mouth care.
Used films and/or student demonstrations for each job sheet.
Effective in helping students to learn.
Suggested activities and answers to test are easy for teacher to use.
Job sheets are needed for successful employment.
Job sheets are very good and helpful.
Let everything remain the same.
Very effective.
Assisting with tub bath and shower and giving care to incontinent patient would be in OJT. For some, shampooing hair, shaving a patient, and combing hair would be, too.

Patient's Environment and Bedmaking

Effective in helping students to learn. (4)
Objectives 3 and 4 were used as an outline for research.
Suggested activities and answers were easy for teacher to use. (2)
Job sheets are needed for successful employment.
No suggestions for changes in unit at present time.
Very satisfied with unit.
Used suggested activities in part; have better materials available.
I use a progress chart that is posted in the classroom instead of the job sheets.
I think the unit as a whole is much better than any I've had in the past from the other curriculums. I was rather reluctant to say that the test was too easy. I don't really know whether it was so easy or whether the subject matter was covered so well in the curriculum that they all made very high scores.
Facilities and equipment are readily available.
Have adequate or abundant resources.
Complete.
Current/up-to-date.
Written in logical order.
Motivating.
Easy for teacher to use.
Confident of technical knowledge myself.
Students need to practice bedmaking at home.
There are no hospital abbreviations in the manual.
All students made two beds (one occupied and one unoccupied). Each gave and received a bath and made O.R. bed.
Students grade own tests and correct mistakes.
I can see from these tests the areas that need to be studied. I will take questions for semester and final tests from these tests.

Body Mechanics and Positions

Very good. (2)
I feel this unit is especially geared to my students. It was excellent and I used no supplement.
This unit is very inclusive.
Transparency masters are good. Students are better able to keep them in mind when they see these drawings.
Complete.
Good unit.
Concise; to the point.
Effective in helping students to learn.
Suggested activities, test, and answers are easy for instructor to use.
Not all filmstrips are available.
Question 2, item j should not be listed as a correct answer.
Very satisfied with the unit.
Used suggested activities in part.

Vital Signs

Effective in helping to teach concepts. (3)
Need more theory on blood pressure.
Test, answers to test, and answers to assignment sheets were easy for instructor to use. (2)
Students performed job sheets individually or as group activities.
I did not like question 2. It was very confusing to students. A classify or select question would be better.
My students were required to complete objectives 13 through 17 indivually to the instructor without mistakes.
Too advanced for a few students.
Adequate suggested activities and assignment sheets.
Students enjoyed the suggested activities and assignment sheets.
Job sheets were motivating.
I saw no changes I'd make in the unit.

Medical Asepsis

Didn't use suggested activities.
Used information sheet in part; used from Nursing I curriculum.
Used test and answers in part.
A very good unit. (2)
Used suggested activities in part. (2)
Unit of instruction was easy for teacher to use.
Unit was complete.
We need more practice rather than making posters.
Transparencies are motivating.
Assignment sheet was good because the students graded themselves.
Job sheets were current.
The test is too much word for word like your information sheet; it needs to be more challenging.

Surgical Asepsis

Effective in helping students to learn.
Suggested activities were thought-provoking and very helpful.
Easy for teacher to use.
Job sheets were needed for successful employment.
I added the following concepts to this unit: catheter (urinary) care, changing sterile dressings, surgical scrub, and wrapping packs to be autoclaved.
Objective page was complete.
Information sheets and test were thought-provoking.
Transparencies were effective in helping students to learn.
Job sheets were written in logical order.
Confident of technical knowledge myself.
Answers were easy for teacher to use.
The only part I had any problems with was trying to show something related to aseptic technique.
Most students thought part II was not explained well enough.

Isolation Technique

Effective in helping students to learn. (2)
Job sheets were needed for successful employment.
Test and answers were easy for teacher to use.
No suggestions for changes in unit at present time.
Confident of technical knowledge myself.
I felt this unit was put together well.
Objectives page and information sheet were complete.
Have adequate resources for suggested activities.
Job sheets were written in logical order.
Answers were easy to use. (2)
I used my own test this time. I found that the yellow sheets (tests) made excellent work sheets. I take my tests from them.
I was very satisfied with this unit.

Observation and Recording

Unit was written in logical order.
Objectives page was easy for instructor to use.
Used suggested activities in part; charting forms from hospital would be useful.
Didn't use assignment sheets but I should have.
Answers to assignment sheet is good idea.
We used flash cards to learn abbreviations. Those pertaining to medicines I feel could be eliminated. I omitted approximately thirty that I felt were either medicine related or outdated; for example, clysis, CD, invol, m, gr, elix. We also had a "spelling bee" contest to learn abbreviations.
I think matching is a very realistic way to test vocabulary in high school students. Question 2 is a reasonable fill-in-the-blank question. Questions 3, 4, 7, 10, and 11 are good. The others are confusing and ambiguous. The information in these questions could best be covered by multiple-choice and true-false or short answer questions. I don't like lists!!!
Effective in helping students to learn.
Objectives page was written in logical order.
Confident of technical knowledge myself.
Assignment sheets were thought-provoking.
Used test in part.

CONCLUSIONS

This study was designed specifically to identify those concepts on which 20 percent or more of the students were not achieving. This standard was arbitrarily set by the Research Unit. Furthermore, the students' knowledge as related to health services careers was measured solely by their ability to respond correctly to the test items in the curriculum manual.

On any given test item where less than 80 percent of the students responded correctly, we assume there is a problem. The concept itself may be so difficult to grasp that only the more advanced students should be expected to learn it. Unclear information or inadequate assignment sheets and job sheets tend to confuse the students and therefore restrict their understanding of the material. The test questions themselves may be poorly written. For example, student response was lower on the list type questions because several answers were required. The discussion questions proved difficult because the questions were marked incorrect if any portion of the student's answer was wrong.

When only one or two schools have less than 80 percent of the students passing an item, the problem may be unique to that situation. The curriculum materials themselves may provide an adequate base for teaching the concept but are not being properly used by the instructor. Curriculum utilization workshops might provide motivation for those instructors who are unfamiliar with the curriculum format. Teachers may not be as knowledgable in some areas as they are in others and therefore may have difficulty presenting some topics. No effort was made in this study to ascertain if there was a relationship between the health services careers instructors' areas of expertise and student achievement or between the instructors' participation in a curriculum workshop and student achievement.

The major conclusion derived from this study is that Health Services Careers meets the needs of the instructors on an overall basis. They seemed to welcome the increase of matching and select-from-a-list type questions in contrast to the profuse discussion questions in the practical nursing series, which were used as supplemental materials for some topics. It is recommended that for future revisions, more assignment sheets and job sheets need to be added. These activities need to be creative and thought-provoking to serve as motivational devices to promote the student's interest. It was suggested by some instructors that the pronunciation of medical terms be listed beside the words themselves. They felt this would aid the students in the learning process. Charts provide a compact method for presenting related information, but the students encounter difficulty when they attempt to

complete charts. It is therefore suggested that they not be used as test questions. The Curriculum and Instructional Materials Center should study the first aid and nutrition units to ascertain why achievement was lower on these two units.

APPENDICES

STUDENT ACHIEVEMENT

This section contains a list of the percentage of correct answers attained by the students overall on each item in the unit tests from the Health Services Careers curriculum manual. An asterisk indicates those percents below 80, which are considered by the Research Unit to be less than satisfactory achievement.

Assignment sheets are designated by the letters A.S. Job sheets are designated by the letters J.S. An n.u. beside an item signifies that the item was not used. An n.r. indicates that the instructor did not respond as to whether the job sheet or assignment sheet was used during the course. A u.l indicates that the item will be used later in the year.

STUDENT ACHIEVMENT

Unit I-A	
Q 1a.	74.2*
b.	72.6*
c.	91.9
d.	72.6*
e.	83.9
f.	95.2
g.	77.4*
h.	95.2
i.	77.4*
j.	93.5
k.	77.4*
l.	100
m.	95.2
n.	96.8
o.	96.8
p.	88.7
q.	93.5
r.	88.7
Q 2a.	85.5
b.	83.9
c.	98.4
d.	98.4
e.	91.9
f.	95.2
g.	98.4
h.	87.1
i.	93.5
j.	95.2
k.	83.9
l.	95.2
Q 3a.	83.9
b.	75.8*
c.	69.4*
d.	62.9*
Q 4a.	95.2
b.	92.1
c.	90.5
d.	85.7
e.	84.1
Q 5a.	95.2
b.	92.1
c.	93.7
d.	96.8
Q 6a.	91.9
b.	91.9
c.	95.2
Q 7a.	87.1
b.	77.4*
Q 8a.	79.0*
Q 8b.	85.5
c.	93.5
d.	83.9
e.	87.1
f.	96.8
g.	96.8
h.	91.9
i.	87.1
Q 9.	24.2*
Q10a.	91.9
b.	96.8
c.	98.4
d.	72.6*
e.	74.2*
Q11a.	85.5
b.	69.4*
Q12.	100, n.r./A.S.
Q13.	100, n.r./A.S.
Q14.	100, n.r./A.S.
Q15.	100, n.r./A.S.
Q16.	100, n.r./A.S.
Unit II-A	
Q 1a.	98.9
b.	97.8
c.	95.5
d.	95.5
e.	98.9
f.	86.5
g.	93.3
h.	100
i.	93.3
j.	98.9
k.	88.8
l.	94.4
m.	84.3
n.	91.0
o.	88.8
p.	83.1
q.	100
r.	96.6
s.	96.6
Q 2a.	91.0
b.	87.6
c.	88.8
d.	91.0
e.	93.3
Q 3a.	97.8
b.	98.9
c.	95.5

Q 3d.	89.9
e.	87.5
f.	80.4
g.	71.4*
h.	64.3*
Q 4a.	61.8*
b.	84.3
c.	71.9*
d.	85.4
e.	79.8*
f.	95.5
g.	89.9
h.	85.4
i.	85.4
j.	89.9
k.	93.3
l.	87.6
m.	93.3
Q 5a.	98.9
b.	100
c.	42.7*
d.	93.3
e.	100
f.	91.0
g.	96.6
h.	97.8
Q 6a.	93.3
b.	92.1
c.	87.6
d.	79.8*
e.	70.8*
Q 7.	67.4*
Q 8a.	96.6
b.	100
c.	95.5
d.	98.9
e.	100
f.	97.8
Q 9.	100, n.r./A.S.
Q10.	100, n.r./A.S.
Q11.	100, n.r./A.S.
Q12.	100, n.r./A.S.
Q13.	100, n.r./A.S.
Q14.	100, n.r./A.S.
Q15.	100, n.r./A.S.
Q16.	100, n.r./A.S.
Q17.	100, n.r./A.S.
Q18.	89.4, n.r./A.S.
Q19.	100, n.r./A.S.
Q20.	100, n.r./A.S.
Q21.	100, n.r./A.S.

Unit III-A

Q 1a.	89.3
b.	100
c.	96.4
d.	96.4
e.	89.3
f.	100
g.	96.4
h.	96.4
i.	96.4
j.	100
k.	89.3
l.	100
m.	92.9
n.	92.9
o.	85.7
p.	100
Q 2a.	85.7
b.	100
c.	92.9
d.	100
e.	96.4
f.	96.4
g.	100
h.	100
i.	100
Q 3a.	57.1*
b.	96.4
c.	57.1*
d.	71.4*
e.	89.3
f.	67.9*
Q 4a.	82.1
b.	82.1
c.	85.7
Q 5a.	100
b.	46.4*
c.	60.7*
d.	85.7
e.	67.9*
f.	85.7
g.	96.4
h.	96.4
i.	82.1
j.	92.9
Q 6a.	100
b.	100
c.	100
d.	100
e.	100
f.	100

Q 6g.	96.2
h.	100
Q 7.	89.3
Q 8a.	100
b.	100
c.	100
Q 9.	78.6*
Q10a.	89.3
b.	82.1
c.	78.6*
Q11a.	96.4
b.	89.3
c.	85.7
Q12a.	100
b.	100
c.	100
d.	100
e.	100
f.	100
g.	100
h.	96.4
i.	100
Q13a.	78.6*
b.	75.0*
c.	75.0*
d.	64.3*
Q14a.	78.6*
b.	100
c.	100
d.	92.9
Q15a.	82.1
b.	78.6*
c.	75.0*
d.	64.3*
e.	67.9*
Q16a.	32.1*
b.	50.0*
c.	60.7*
d.	39.3*
Q17a.	78.6*
b.	92.9
c.	96.4
d.	89.3
e.	96.4
f.	100
g.	96.4
h.	96.4
i.	100
j.	100
k.	53.6*
Q18a.	82.1
b.	85.7
c.	75.0*
Q18d.	100
e.	85.7
f.	89.3
g.	89.3
h.	78.6*
Q19a.	89.3
b.	85.7
c.	78.6*
d.	64.3*
e.	60.7*
Q20.	A.S.
Q21.	96.2, n.r./A.S.
Q22.	n.u., n.r./A.S.

Unit I-B

Q 1a.	85.5
b.	66.1*
c.	74.2*
d.	79.0*
e.	93.5
f.	79.0*
g.	96.8
h.	91.9
i.	88.7
j.	87.1
k.	91.9
l.	74.2*
m.	67.7*
Q 2a.	87.1
b.	88.7
c.	87.1
d.	83.9
e.	83.9
f.	83.9
Q 3a.	77.4*
b.	100
c.	100
d.	100
e.	91.9
f.	98.4
g.	96.8
h.	100
i.	98.4
j.	93.5
Q 4a.	90.3
b.	77.4*
c.	69.4*
Q 5a.	98.4
b.	96.8
c.	98.4
d.	96.8
e.	88.7
f.	95.2

Q 5g.	95.2
Q 6a.	95.2
b.	95.2
c.	96.8
d.	87.1
e.	82.3
Q 7a.	100
b.	100
c.	100
d.	100
e.	98.4
f.	100
g.	98.4
h.	90.3
Q 8a.	91.9
b.	98.4
c.	100
d.	100
e.	100
f.	98.4
g.	95.2
Q 9a.	98.4
b.	98.4
c.	91.9
d.	91.9
e.	96.8
f.	95.2
Q10a.	80.6
b.	87.1
c.	85.5
d.	77.4*
e.	71.0*
Q11a.	71.0*
b.	54.8*
c.	61.3*
d.	87.1
e.	54.8*
f.	56.5*
Q12a.	95.2
b.	93.5
c.	85.5
d.	83.9
e.	95.2
f.	93.5
g.	90.3
h.	90.3
Q13a.	88.5
b.	96.2
c.	100
d.	96.2
e.	100
f.	100
Q14a.	80.6
Q14b.	75.8*
c.	71.0*
d.	59.7*
Q15.	100, n.r./A.S.
Q16.	100, n.r./A.S.

Unit II-B

Q 1a.	89.7
b.	89.7
c.	100
d.	100
e.	89.7
f.	93.1
g.	93.1
h.	93.1
i.	[illegible].6
j.	100
k.	79.3*
l.	79.3*
m.	72.4*
n.	86.2
Q 2a.	93.1
b.	100
c.	86.2
d.	89.7
e.	100
f.	89.7
g.	93.1
h.	89.7
i.	93.1
j.	100
k.	96.6
l.	100
m.	86.2
n.	96.6
o.	89.7
Q 3a.	93.1
b.	100
c.	93.1
d.	89.7
e.	89.7
Q 4a.	100
b.	55.2*
c.	65.5*
d.	82.8
e.	93.1
f.	75.9*
g.	93.1
Q 5a.	100
b.	93.1
c.	79.3*
d.	100
e.	100

Q 5f.	96.6
g.	96.6
h.	100
Q 6a.	96.6
b.	93.1
c.	96.6
d.	96.6
e.	89.7
Q 7.	n.u., n.r./A.S.
Q 8.	n.u., n.r./A.S.
Q 9.	n.u., n.r./A.S.

Unit III-B

Q 1a.	91.7
b.	100
c.	62.5*
d.	54.2*
e.	70.8*
f.	91.7
g.	100
h.	70.8*
i.	50.0*
j.	87.5
k.	95.8
l.	100
m.	79.2*
n.	95.8
o.	100
p.	70.8*
q.	87.5
r.	83.3
s.	66.7*
t.	100
u.	91.7
v.	79.2*
w.	100
x.	66.7*
Q 2a.	95.8
b.	83.3
c.	70.8*
Q 3.	83.3
Q 4a.	45.8*
b.	58.3*
c.	70.8*
d.	79.2*
e.	66.7*
f.	70.8*
Q 5a.	75.0*
b.	83.3
c.	87.5
Q 6.	62.5*
Q 7a.	91.7
b.	100
Q 7c.	95.8
d.	100
Q 8a.	83.3
b.	91.7
c.	70.8*
d.	87.5
e.	75.0*
f.	79.2*
Q 9a.	95.8
b.	95.8
Q10a.	100
b.	100
c.	66.7*
d.	100
e.	95.8
Q 11.	41.7*
Q12a.	87.5
b.	91.7
c.	100
d.	95.8
e.	100
f.	91.7
g.	91.7
Q13a.	79.2*
b.	79.2*
c.	66.7*
d.	75.0*
e.	91.7
f.	66.7*
Q14a.	95.8
b.	70.8*
c.	79.2*
Q15a.	83.3
b.	87.5
c.	70.8*
d.	50.0*
e.	83.3
f.	58.3*
g.	62.5*
h.	83.3
i.	83.3
Q16a.	45.8*
b.	50.0*
c.	45.8*
d.	54.2*
e.	45.8*
f.	33.3*
g.	25.0*
h.	45.8*
Q17a.	83.3
b.	95.8
c.	75.0*
d.	66.7*

Q17e.	70.8*
f.	83.3
g.	62.5*
h.	95.8
i.	58.3*
j.	91.7
k.	45.8*
l.	91.7
Q18a.	62.5*
b.	70.8*
c.	70.8*
Q19a.	75.0*
b.	83.3
c.	95.8
d.	100
e.	100
f.	91.7
g.	100
h.	75.0*
i.	87.5
Q20a.	95.8
b.	70.8*
c.	66.7*
d.	62.5*
e.	70.8*
f.	79.2*
g.	95.8
h.	87.5
i.	87.5
Q21a.	58.3*
b.	62.5*
c.	58.3*
Q 22.	100 A.S.
Q 23.	100 A.S.
Q24a.	100 J.S.
b.	100 J.S.
c.	100 J.S.
d.	100 J.S.
e.	100 J.S.

Unit I-C

Q 1a.	96.4
b.	100
c.	98.2
d.	94.6
e.	92.9
f.	98.2
g.	87.5
h.	94.6
i.	100
j.	89.3
k.	94.6
l.	91.1
Q 1m.	98.2
Q 2a.	100
b.	100
c.	100
d.	98.2
e.	92.9
f.	87.5
Q 3a.	100
b.	98.2
c.	100
d.	98.2
e.	96.4
f.	96.4
g.	98.2
h.	100
Q 4a.	96.4
b.	92.9
c.	89.3
d.	94.6
e.	92.9
f.	91.1
Q 5a.	94.6
b.	89.3
c.	92.9
d.	92.9
e.	96.4
Q 6a.	98.2
b.	100
c.	98.2
d.	98.2
Q 7a.	98.2
b.	100
c.	89.3
Q 8a.	98.2
b.	98.2
c.	96.4
d.	98.2
e.	98.2
f.	92.9
g.	98.2
h.	96.4
i.	98.2
j.	92.9
k.	98.2
l.	89.3
m.	85.7
n.	100
o.	100
p.	100
Q 9a.	98.2
b.	96.4
c.	92.9
d.	98.2

Q 9e.	98.2
Q10a.	98.2
b.	96.4
c.	87.5
d.	92.9
Q 11.	n.u., n.r./A.S.

Unit II-C

Q 1a.	98.4
b.	87.3
c.	77.8*
d.	69.8*
e.	82.5
f.	88.9
g.	79.4*
h.	66.7*
i.	88.9
j.	90.5
k.	90.5
l.	84.1
m.	79.4*
n.	74.6*
o.	71.4*
p.	73.0*
q.	90.5
r.	84.1
s.	95.2
t.	85.7
u.	84.1
v.	87.3
w.	84.1
x.	79.4*
Q 2a.	92.1
b.	95.2
c.	92.1
Q3 a.	71.4*
b.	61.9*
c.	49.2*
Q 4a.	87.3
b.	93.7
c.	95.2
d.	96.8
e.	95.2
f.	90.5
g.	95.2
h.	93.7
i.	93.7
j.	85.7
k.	93.7
l.	95.2
m.	92.1
n.	90.5
o.	98.4
Q 4p.	85.7
q.	95.2
r.	92.1
Q 5a.	87.3
b.	84.1
c.	100
d.	93.7
e.	92.1
f	81.0
g.	82.5
h.	95.2
i.	87.3
j.	81.0
Q 6a.	87.3
b.	87.3
c.	84.1
d.	88.9
Q 7a.	96.8
b.	95.2
c.	90.5
d.	85.7
e.	76.2*
Q 8a.	98.4
b.	96.8
c.	84.1
d.	90.5
e.	84.1
f.	82.5
Q 9a.	85.7
b.	90.5
c.	87.3
d.	96.8
e.	93.7
Q10a.	82.5
b.	60.3*
c.	90.5
Q 11.	A.S.

Unit III-C

Q 1a.	95.7
b.	81.2
c.	87.0
d.	78.3*
e.	88.4
f.	78.3*
g.	94.2
h.	91.3
i.	87.0
j.	97.1
k.	88.4
Q 2a.	92.8
b.	65.5
c.	60.9*

Q 2d.	94.2
e.	69.6*
Q 3a.	94.2
b.	84.1
c.	82.6
d.	88.4
e.	91.3
f.	95.6
g.	98.6
h.	100
Q 4a.	94.2
b.	85.5
c.	63.8*
Q 5a.	74.4*
b.	85.1
c.	63.8*
d.	74.5*
e.	55.3*
f.	89.4
g.	44.7*
h.	65.9*
Q 6a.	78.3*
b.	73.9*
c.	81.2
d.	76.8*
Q 7a.	85.5
b.	81.2
c.	76.8*
Q 8a.	71.4*
b.	72.9*
c.	67.1*
d.	51.4*
Q 9a.	85.5
b.	89.9
c.	79.7*
d.	81.2
e.	82.6
Q10a.	J.S.
b.	J.S.
c.	J.S.

Unit IV-C

Q 1a.	80.0
b.	96.8
c.	91.6
d.	80.0
e.	93.7
f.	97.9
g.	86.3
h.	75.8*
i.	73.7*
j.	86.3
k.	87.4
Q 11.	96.8
m.	94.7
n.	96.8
o.	93.7
p.	94.7
q.	86.3
r.	85.3
s.	91.6
t.	83.2
u.	92.6
v.	92.6
w.	92.6
x.	82.1
y.	96.8
z.	94.7
aa.	96.8
Q 2a.	85.3
b.	77.9*
c.	72.6*
Q 3a.	74.7*
b.	89.5
c.	80.0
d.	57.9*
e.	74.7*
f.	91.6
g.	88.4
h.	82.1
i.	70.5*
j.	78.9*
k.	71.6*
l.	82.1
m.	75.8*
n.	84.2
o.	93.7
p.	83.2
q.	96.8
Q 4.	External Organs
a.	85.3
b.	84.2
c.	72.6*
d.	66.3*
e.	84.2
f.	82.1
g.	73.7*
h.	82.1
i.	85.3
j.	74.7*
	Internal Organs
a.	83.2
b.	75.8*
c.	70.5*
d.	62.1*
e.	71.6*

Q 4f.	73.7*
g.	83.2
h.	74.7*
i.	71.6*
j.	72.6*
k.	77.9*
l.	66.3*
m.	61.1*
n.	74.7*
	Breast
a.	71.6*
b.	70.5*
c.	80.0
d.	94.7
e.	75.8*
f.	72.6*
g.	97.9
Q 5.	External male organs
a.	74.7*
b.	88.5
c.	82.8
d.	87.4
e.	87.4
	Internal male organs
a.	91.6
b.	80.0
c.	78.9*
d.	75.8*
	External female organs
a.	85.3
b.	88.4
c.	90.5
d.	81.1
e.	94.7
f.	86.3
g.	76.8*
h.	84.2
	Internal female organs
a.	86.3
b.	85.3
c.	93.7
d.	81.1
e.	86.3
Q 6a.	68.4*
b.	80.0
c.	82.1
d.	73.7*
e.	78.9*
Q 7a.	83.2
b.	92.6
c.	93.7
d.	91.6
e.	94.7
Q 8a.	98.8
b.	95.1
c.	92.7
d.	90.2
e.	92.7
f.	89.0
g.	71.9*
h.	81.7
i.	82.9
j.	63.4*
k.	74.4*
l.	80.5
m.	81.7
n.	70.7*
Q 9a.	91.5
b.	96.3
c.	89.0
d.	89.0
e.	92.7
f.	95.1
g.	90.2
h.	91.5
Q10a.	84.1
b.	79.3*
c.	74.4*
Q11a.	95.1
b.	97.6
c.	93.9
d.	100
e.	97.6
Q12a.	93.9
b.	90.2
c.	93.9
d.	92.7
e.	87.8
f.	90.2
g.	95.1
h.	89.0
i.	79.3*
j.	93.9
k.	92.7
l.	86.6
Q13a.	86.6
b.	90.2
c.	82.9
d.	84.1
e.	73.2*
f.	68.3*
Q14a.	89.0
b.	85.4
c.	82.9
d.	69.5*
Q15a.	89.0

Q15b.	95.1
c.	96.3
d.	95.1
e.	90.2
f.	92.7
g.	90.2
h.	92.7
Q16a.	89.0
b.	82.9
c.	75.6*
d.	68.3*
Q17a.	89.0
b.	90.2
c.	90.2
d.	86.6
e.	90.2
Q18.	n.r., n.u./A.S.
Q19a.	100, n.r./J.S.
b.	100, n.r./J.S.
c.	100, n.r./J.S.
d.	100, n.r./J.S.
e.	100, n.r./J.S.
f.	100, n.r./J.S.
g.	100, n.r./J.S.

Unit V-C

Q 1a.	97.3
b.	97.3
c.	98.6
d.	86.3
e.	95.9
f.	97.3
g.	97.3
h.	90.4
i.	86.3
j.	95.9
k.	90.4
l.	90.4
m.	86.3
n.	89.0
o.	84.9
p.	93.2
q.	87.7
r.	95.9
Q 2a.	95.9
b.	89.0
Q 3a.	97.0
b.	95.0
c.	86.0
d.	91.0
e.	93.0
f.	88.0
g.	84.0
Q 3h.	88.0
i.	91.0
j.	97.0
k.	97.0
l.	95.0
m.	95.0
n.	97.0
Q 4a.	97.3
b.	94.5
c.	95.9
d.	97.3
e.	97.3
Q 5a.	95.9
b.	93.2
c.	93.2
Q 6a.	94.5
b.	98.6
c.	86.3
d.	91.8
e.	91.8
f.	87.7
Q 7a.	91.8
b.	91.8
c.	86.3
d.	83.6
Q 8.	78.1*
Q 9a.	94.5
b.	93.2
c.	94.5
d.	83.6
Q10a.	91.8
b.	93.2
c.	93.2
d.	91.8
e.	94.5
f.	91.8
g.	89.0
h.	93.2
i.	86.3
Q11a.	93.0
b.	81.0
c.	83.0
d.	67.0*
e.	62.0*
Q12a.	83.6
b.	90.4
c.	97.3
d.	91.8
e.	94.5
f.	95.9
g.	93.2
Q13.	A.S.
Q14a.	100, n.r./J.S.

Q14b.	100, n.r./J.S.
c.	100, n.r./J.S.
d.	100, n.r./J.S.
e.	100, n.r./J.S.

Unit VI-C

Q 1a.	95.1
b.	96.3
c.	97.5
d.	100
e.	96.3
f.	91.4
g.	90.1
h.	91.4
i.	90.1
j.	97.5
Q 2a.	92.6
b.	95.1
c.	87.7
d.	82.7
e.	92.6
f.	93.8
g.	91.4
h.	86.4
i.	88.9
j.	87.7
k.	86.4
l.	92.6
m.	87.7
Q 3a.	81.5
b.	76.5*
c.	95.1
d.	92.6
e.	76.5*
f	92.6
g.	88.9
h.	77.8*
i.	95.1
Q 4a.	81.5
b.	86.4
c.	93.8
d.	79.0*
Q 5a.	97.5
b.	91.4
c.	91.4
d.	90.1
e.	96.3
f.	93.8
g.	90.1
h.	92.6
Q 6a.	74.6*
b.	76.1*
c.	62.0*
Q 6d.	77.5*
e.	74.6*
f.	77.5*
g.	67.6*
h.	69.0*
i.	70.4*
j.	69.0*
k.	59.2*
l.	56.3*
m.	57.7*
n.	50.7*
o.	74.6*
p.	66.2*
q.	62.0*
r.	54.9*
s.	60.6*
t.	73.2*
u.	74.6*
v.	57.7*
w.	67.6*
x.	70.4*
y.	59.2*
z.	59.2*
Q 7a.	84.0
b.	98.8
c.	50.6*
d.	51.9*
e.	82.7
f.	92.6
g.	45.7*
h.	97.5
i.	80.3
Q 8a.	96.3
b.	98.8
c.	95.1
d.	97.5
e.	95.1
Q 9a.	80.3
b.	93.8
c.	85.2
d.	71.6*
e.	95.1
f.	87.7
g.	92.6
h.	93.8
i.	88.9
j.	93.8
k.	87.7
l.	66.7*
m.	74.1*
n.	93.8
o.	88.9
p.	95.1

Q10a.	86.0
b.	83.0
c.	83.0
d.	90.0
e.	86.0
Q11a.	75.0*
b.	79.0*
c.	97.0
d.	79.0*
e.	80.0
f.	85.0
g.	80.0
Q12a.	97.5
b.	91.4
c.	88.9
d.	84.0
e.	84.0
f.	84.0
g.	85.2
h.	87.7
i.	96.3
j.	64.2*
k.	60.5*
l.	59.3*
m.	87.7
n.	81.5
o.	81.5
p.	88.9
q.	87.7
r.	96.3
s.	76.5*
t.	77.8*
u.	70.4*
v.	92.6
w.	90.1
x.	77.8*
y.	70.4*
z.	74.1*
aa.	76.5*
bb.	87.7
cc.	66.7*
Q13.	56.0*
Q14a.	89.0
b.	90.0
c.	87.0
Q15.	59.2*
Q16a.	J.S.
b.	J.S.

Unit VIII-C

Q 1a.	100
b.	100
c.	100
Q 1d.	100
e.	97.8
f.	97.8
g.	100
h.	97.8
i.	97.8
j.	97.8
k.	100
Q 2a.	88.9
b.	95.6
c.	88.9
d.	75.6*
e.	71.1*
Q 3a.	91.1
b.	93.3
c.	91.1
d.	93.3
e.	91.1
Q 4a.	100
b.	100
c.	100
d.	95.6
e.	91.1
f.	84.4
g.	80.0
h.	93.3
i.	97.8
Q 5a.	95.6
b.	100
c.	95.6
Q 6a.	91.1
b.	97.8
c.	97.8
d.	93.3
e.	97.8
f.	97.8
g.	97.8
h.	95.6
i.	97.8
j.	91.1
Q 7a.	97.8
b.	93.3
Q 8.	75.6*
Q 9a.	100
b.	100
c.	97.8
d.	95.6
e.	86.7
f.	77.8*
Q10a.	100
b.	97.8
c.	100
d.	97.8

Q10e.	95.6
f.	100
g.	100
h.	95.6
i.	93.3
j.	97.8
k.	97.8
l.	95.6
m.	97.8
n.	95.6
o.	97.8
p.	91.1
q.	91.1
Q11a.	100
b.	100
c.	95.6
d.	93.3
e.	91.1
f.	82.2
g.	71.1*
Q12a.	84.4
b.	86.7
c.	88.9
d.	82.2
e.	91.1
f.	97.8
g.	97.8
h.	88.9
i.	91.1
j.	88.9
k.	88.9
l.	84.4
m.	82.2
n.	91.1
o.	88.9
p.	93.3
q.	91.1
r.	88.9
Q13a.	100
b.	93.3
c.	100
d.	95.6
e.	95.6
f.	91.1
g.	91.1
h.	93.3
i.	95.6
j.	97.8
k.	95.6
l.	91.1
Q14.	46.7*
Q15.	62.2*
Q16.	100 A.S.
Q17.	100 A.S.
Q18.	100 A.S.
Q19a.	100 J.S.
b.	100 J.S.
c.	100 J.S.
d.	100 J.S.

Unit VIII-C

Q 1a.	93.9
b.	93.9
c.	81.6
d.	96.9
e.	89.8
f.	85.7
g.	86.7
h.	90.8
i.	93.9
j.	83.7
k.	87.8
l.	89.8
m.	91.8
n.	73.5*
o.	87.8
p.	78.6*
Q 2a.	90.8
b.	81.6
c.	77.6*
d.	80.6
e.	85.7
f.	77.6*
g.	89.8
h.	89.8
i.	90.8
Q 3a.	77.6*
b.	81.6
Q 4a.	86.7
b.	93.3
c.	85.0
d.	93.3
Q 5a.	86.7
b.	83.3
c.	83.3
Q 6a.	86.7
b.	91.7
c.	83.3
d.	83.3
e.	95.0
f.	80.0
g.	96.7
h.	91.7
Q 7a.	93.3
b.	93.3
c.	95.0

Q 7d.	96.7
e.	93.3
f.	95.0
g.	95.0
h.	95.0
i.	95.0
j.	93.3
k.	100
l.	93.3
Q 8a.	70.0*
b.	63.3*
Q 9a.	93.3
b.	81.7
c.	93.3
d.	85.0
Q10a.	82.7
b.	80.6
c.	76.5*
d.	73.5*
e.	69.4*
f.	65.3*
g.	57.1*
h.	53.1*
i.	46.9*
j.	38.8*
Q11a.	73.5*
b.	70.4*
c.	76.5*
d.	87.8
e.	84.7
f.	81.6
g.	73.5*
h.	80.6
i.	80.6
j.	77.6*
k.	77.6*
l.	77.6*
m.	89.8
n.	78.6*
o.	88.8
p.	69.4*
q.	76.5*
r.	76.5*
Q12a.	78.6*
b.	87.8
c.	86.7
d.	77.6*
e.	80.6
f.	82.7
g.	81.6
h.	82.7
i.	74.5*
j.	87.8
Q12k.	83.7
l.	80.6
m.	76.5*
n.	75.5*
Q13a.	83.7
b.	86.7
c.	82.7
d.	81.6
e.	77.6*
f.	64.3*
g.	67.3*
Q14a.	88.3
b.	88.3
c.	93.3
d.	91.7
Q15a.	85.0
b.	93.3
c.	88.3
d.	90.0
e.	93.3
f.	90.0
g.	90.0
Q16a.	93.3
b.	91.7
c.	96.7
d.	81.7
e.	90.0
f.	86.7
Q17a.	88.3
b.	93.3
c.	91.7
d.	88.3
e.	86.7
f.	90.0
g.	90.0
h.	83.3
i.	91.7
j.	85.0
k.	85.0
l.	88.3
m.	83.3
Q18a.	83.3
b.	83.3
c.	76.7*
d.	75.0*
e.	73.3*
Q19a.	83.3
b.	78.3*
c.	80.0
d.	78.3*
e.	73.3*
Q20a.	85.0
b.	88.3

Q20c.	98.3
d.	86.7
e.	91.7
f.	98.3
g.	86.7
h.	98.3
Q21a.	76.7*
b.	78.3*
c.	76.7*
d.	68.3*
e.	63.3*
Q22a.	86.7
b.	88.3
c.	88.3
d.	88.3
e.	95.0
f.	88.3
g.	88.3
h.	90.0
Q23a.	78.3*
b.	75.0*
c.	68.3*
Q24a.	85.0
b.	88.3
c.	90.0
d.	86.7
e.	85.0
f.	83.3
g.	81.7
h.	85.0
i.	81.7
j.	80.0
Q25a.	83.3
b.	76.7*
c.	71.7*
d.	70.0*
e.	61.7*
Q26a.	78.3*
b.	95.0
c.	88.3
d.	91.7
e.	90.0
Q27a.	83.3
b.	88.3
c.	90.0
d.	88.3
e.	85.0
f.	85.0
g.	85.0
h.	83.3
i.	86.7
Q28a.	66.7*
b.	58.3*
Q28c.	60.0*
Q29a.	J.S.
b.	J.S.
c.	J.S.
d.	J.S.
e.	J.S.
f.	J.S.

Unit IX-C

Q1 a.	92.2
b.	91.3
c.	97.1
d.	95.1
e.	88.3
f.	92.2
g.	92.2
h.	95.1
i.	96.1
j.	93.2
k.	92.2
l.	91.3
m.	91.3
n.	82.5
o.	90.3
p.	86.4
q.	93.2
r.	95.1
s.	92.2
t.	96.1
u.	94.2
v.	87.4
w.	87.4
x.	93.2
Q 2a.	82.5
b.	92.2
c.	98.1
d.	51.5*
e.	88.3
f.	91.3
Q 3a.	84.5
b.	80.6
c.	96.1
d.	90.3
e.	75.7*
f.	76.7*
g.	89.3
h.	71.8*
i.	67.0*
j.	73.8*
k.	91.3
l.	67.0*
m.	87.4
n.	69.9*

Q 3o.	82.5
p.	91.3
q.	75.7*
r.	87.4
s.	85.4
t.	81.6
u.	82.5
Q 4a.	77.7*
b.	73.8*
c.	80.6
d.	84.5
e.	81.6
f.	73.8*
g.	78.6*
h.	81.6
i.	89.3
j.	78.6*
k.	74.8*
l.	78.6*
m.	79.6*
n.	83.5
o.	85.4
p.	73.8*
q.	82.5
r.	84.5
s.	76.7*
t.	80.6
u.	81.6
v.	77.7*
w.	75.7*
x.	73.8*
y.	77.7*
z.	72.8*
aa.	70.9*
bb.	82.5
cc.	83.5
Q 5	Arteries
a.	87.8
b.	84.4
c.	78.9*
d.	74.4*
e.	70.0*
	Veins
a.	81.1
b.	80.0
c.	76.7*
d.	71.1*
Q 6a.	93.2
b.	94.2
c.	94.2
d.	90.3
e.	86.4
Q 7a.	88.3
Q 7b.	92.2
c.	79.6*
d.	90.3
e.	92.2
f.	94.2
g.	99.0
h.	95.1
i.	76.7*
j.	95.1
k.	84.5
l.	84.5
m.	96.1
n.	95.1
o.	96.1
p.	88.3
q.	96.1
r.	82.5
s.	90.3
t.	94.2
Q 8a.	94.4
b.	88.9
c.	85.6
Q 9a.	96.1
b.	93.2
c.	93.2
d.	90.3
e.	95.1
f.	90.3
g.	98.1
h.	99.0
i.	94.2
j.	94.2
k.	96.1
l.	87.4
m.	95.1
n.	93.2
o.	95.1
Q10a.	94.2
b.	93.2
c.	89.3
d.	91.3
e.	90.3
f.	87.4
g.	82.4
h.	85.4
i.	83.5
j.	92.2
k.	83.5
l.	84.5
Q11a.	93.2
b.	85.4
c.	94.2
d.	96.1

Q11e.	97.1
f.	95.1
g.	97.1
h.	97.1
Q12a.	95.1
b.	95.1
c.	97.1
d.	94.2
Q13	65.6*
Q14a.	99.0
b.	99.0
c.	98.1
d.	94.2
e.	95.1
Q15a.	85.6
b.	86.7
c.	85.6
d.	82.2
Q16a.	86.4
b.	87.4
c.	82.5
d.	83.5
e.	95.1
Q17a.	90.3
b.	85.4
c.	87.4
d.	96.1
e.	93.2
f.	90.3
g.	94.2
h.	86.4
i.	97.1
j.	88.3
k.	91.3
l.	85.4
Q18a.	80.6
b.	82.5
c.	85.4
d.	92.2
e.	96.1
f.	94.2
g.	92.2
h.	94.2
i.	84.5
j.	89.3
k.	88.3
l.	88.3
m.	93.2
Q19a.	96.7
b.	87.8
c.	93.3
d.	90.0
e.	85.6
Q19f.	93.3
Q20a.	95.1
b.	88.3
c.	96.1
d.	97.1
e.	81.6
f.	86.4
g.	98.1
h.	96.1
i.	98.1
Q21a.	97.1
b.	89.3
c.	91.3
d.	92.2
e.	88.3
f.	80.6
g.	76.7*
Q22a.	J.S.
b.	J.S.
c.	J.S.
d.	J.S.
e.	J.S.
f.	J.S.
g.	J.S.
h.	J.S.
i.	J.S.
j.	J.S.
k.	J.S.

Unit I-D

Q 1a.	71.8*
b.	94.4
c.	94.4
d.	98.6
e.	83.1
f.	95.8
g.	81.7
h.	88.7
i.	93.0
j.	95.8
k.	80.3
l.	97.2
m.	74.6*
Q 2a.	97.2
b.	88.7
c.	80.3
d.	70.4*
Q 3a.	90.1
b.	84.5
c.	76.1*
d.	57.7*
Q 4a.	86.0
b.	96.0

Q 4c.	98.0
d.	90.0
e.	90.0
f.	82.0
g.	90.0
h.	92.0
i.	90.0
j.	94.0
Q 5a.	97.1
b.	95.6
c.	98.5
d.	97.1
e.	91.2
f.	89.7
Q 6a.	90.5
b.	87.3
c.	93.7
d.	92.1
Q 7a.	84.0
b.	88.0
c.	94.0
d.	86.0
e.	86.0
f.	68.0*
g.	90.0
h.	84.0
i.	80.0
j.	92.0
k.	86.0
Q 8a.	95.2
b.	92.1
c.	88.9
d.	98.4
e.	93.7
f.	77.8*
g.	79.4*
h.	84.1
Q 9a.	86.0
b.	86.0
c.	94.0
d.	84.0
e.	94.0
f.	92.0
Q10a.	72.0*
b.	74.0*
c.	72.0*
Q11a.	62.0*
b.	64.0*
c.	84.0
Q12a.	94.0
b.	94.0
c.	94.0
d.	92.0
Q12e.	86.0
Q13a.	94.0
b.	94.0
c.	98.0
Q14a.	80.3
b.	59.2*
c.	88.7
d.	71.8*
e.	90.1
f.	59.2*
g.	60.6*
h.	50.7*
i.	85.9
j.	83.1
k.	63.4*
l.	85.9
m.	90.1
n.	60.6*
o.	73.2*
p.	93.0
q.	83.1
r.	67.6*
s.	80.3
t.	69.0*
Q15a.	94.4
b.	88.9
c.	77.8*
d.	86.1
e.	97.2
f.	83.3
g.	88.9
h.	83.3
i.	91.7
Q16a.	88.9
b.	77.8*
c.	80.6
d.	75.0*
e.	69.4*
f.	75.0*
g.	50.0*
h.	66.7*
i.	58.3*
j.	66.7*
k.	58.3*
l.	75.0*
m.	66.7*
n.	66.7*
o.	75.0*
p.	61.1*
q.	50.0*
r.	52.8*
Q17a.	58.0*
b.	92.0

Q17c.	62.0*
d.	76.0*
e.	62.0*
f.	78.0*
g.	58.0*
h.	82.0
i.	62.0*
j.	82.0
k.	88.0
l.	66.0*
m.	76.0*
n.	76.0*
o.	74.0*
Q18a.	80.6
b.	58.3*
c.	55.6*
d.	36.1*
e.	38.9*
Q19a.	80.6
b.	86.1
c.	47.2*
d.	58.3*
e.	69.4*
f.	75.0*
g.	63.9*
h.	63.9*
i.	9.1*
j.	44.4*
k.	55.6*
l.	77.8*
Q20a.	94.4
b.	97.2
c.	94.4
Q21a.	72.2*
b.	86.1
c.	88.9
d.	80.6
e.	94.4
f.	88.9
g.	88.9
h.	88.9
i.	88.9
j.	94.4
Q22a.	97.2
b.	80.6
c.	63.9*
Q23.	A.S.
Q24.	A.S.
Q25.	A.S.
Q26.	A.S.
Q27.	A.S.
Q28a.	100, u.l./J.S.
b.	100, u.l./J.S.
c.	J.S.

Unit II-D

Q 1a.	96.6
b.	100
c.	97.7
d.	100
e.	92.0
f.	89.7
g.	86.2
h.	96.6
i.	92.0
j.	96.6
k.	85.1
l.	89.7
m.	83.9
n.	100
o.	88.5
Q 2a.	95.4
b.	89.7
c.	85.1
d.	98.9
e.	94.3
f.	97.7
g.	97.7
h.	88.5
i.	95.4
j.	94.3
Q 3a.	92.0
b.	56.3*
c.	73.6*
d.	95.4
e.	67.8*
f.	98.9
g.	62.1*
h.	94.3
i.	96.6
j.	82.8
k.	98.9
l.	94.3
m.	86.2
n.	71.3*
Q 4a.	J.S.
b.	J.S.
c.	J.S.
d.	J.S.
e.	J.S.
f.	J.S.
g.	J.S.
h.	J.S.
i.	J.S.

Unit III-D

Q 1a.	96.4
b.	92.8
c.	98.6
d.	97.8
e.	99.3
f.	94.2
g.	97.1
h.	94.9
i.	100
j.	95.7
k.	94.9
l.	98.6
m.	91.3
n.	97.1
o.	97.1
p.	92.8
q.	99.3
Q 2a.	94.9
b.	94.2
c.	93.5
d.	94.2
e.	97.1
f.	94.2
g.	95.7
h.	86.2
i.	94.2
j.	97.1
k.	93.5
l.	95.7
Q 3a.	95.0
b.	95.9
c.	92.6
d.	85.9
e.	86.8
f.	73.6*
Q 4a.	98.3
b.	77.7*
c.	97.5
d.	94.2
e.	95.9
f.	96.7
g.	96.7
h.	93.4
i.	85.1
j.	92.6
k.	100
l.	95.0
m.	82.6
n.	95.0
o.	91.7
p.	98.3
q.	90.9
Q 5a.	87.7
b.	90.6
c.	82.1
d.	87.7
Q 6a.	92.0
b.	92.0
c.	92.8
d.	92.8
e.	92.0
f.	88.4
g.	94.2
Q 7a.	99.3
b.	96.4
c.	95.7
d.	94.9
Q 8.	79.3*
Q 9a.	94.1 J.S.
b.	93.1 J.S.
c.	93.1 J.S.
d.	99.0 J.S.

Unit IV-D

Q 1a.	96.6
b.	97.7
c.	93.2
d.	98.9
e.	90.9
f.	96.6
Q 2a.	98.9
b.	97.7
c.	95.5
d.	95.5
e.	95.5
f.	94.3
g.	81.8
h.	96.6
i.	95.5
j.	51.1*
Q 3a.	90.9
b.	88.6
c.	84.1
d.	84.1
e.	77.3*
Q 4a.	98.9
b.	98.9
c.	98.9
d.	98.9
e.	98.9
f.	98.9
Q 5a.	95.5
b.	94.3
c.	97.7
d.	90.9

Q 5e.	87.5
f.	93.2
g.	90.9
h.	95.5
i.	76.1*
j.	93.2
k.	84.1
l.	89.8
m.	89.8
n.	92.0
o.	94.3
p.	90.9
q.	97.7
r.	88.6
s.	92.0
t.	93.2
u.	88.6
Q 6a.	86.4
b.	97.7
c.	84.1
d.	75.0*
e.	92.0
f.	93.2
g.	83.0
h.	89.8
i.	86.4
j.	95.5
k.	89.8
Q 7.	55.7*
Q 8a.	89.8
b.	83.0
c.	78.4*
d.	71.6*
Q 9a.	96.6
b.	88.6
c.	88.6
d.	86.4
e.	84.1
f.	71.6*
g.	79.5*
h.	88.6
i.	86.4
j.	89.8
Q10a.	96.6
b.	95.5
c.	92.0
d.	87.5
e.	84.1
Q11a.	J.S.
b.	J.S.
c.	J.S.
d.	J.S.
e.	J.S.
Q11f.	J.S.
g.	J.S.

Unit V-D

Q 1a.	100
b.	97.5
c.	92.6
d.	88.9
e.	98.8
f.	88.9
g.	91.4
h.	92.6
i.	88.9
j.	97.5
k.	92.6
l.	97.5
m.	86.4
n.	91.4
o.	93.8
p.	93.8
q.	90.1
r.	97.5
Q 2a.	88.9
b.	92.6
c.	92.6
d.	87.7
e.	76.5*
f.	92.6
g.	85.2
h.	80.2
i.	72.8*
Q 3a.	97.5
b.	85.2
c.	98.8
d.	93.8
e.	91.4
f.	90.1
Q 4a.	100
b.	100
c.	98.8
d.	100
e.	100
f.	97.5
Q 5a.	98.8
b.	98.8
c.	93.8
d.	96.3
e.	96.3
f.	96.3
g.	98.8
h.	95.1
Q 6a.	97.5
b.	97.5

Q 6c.	93.8
d.	93.8
e.	98.8
Q 7a.	91.4
b.	98.8
c.	93.8
d.	100
e.	97.5
f.	95.1
Q 8a.	100
b.	90.0
c.	95.0
d.	97.5
e.	100
f.	97.5
g.	96.3
h.	92.5
i.	85.0
j.	80.0
k.	88.8
Q 9a.	93.8
b.	90.0
c.	95.0
d.	93.8
e.	86.3
f.	87.5
g.	88.8
Q10a.	97.5
b.	98.8
c.	98.8
d.	96.3
e.	92.5
f.	86.3
Q11a.	96.3
b.	95.0
c.	93.8
Q12a.	93.8
b.	87.5
c.	82.5
Q13.	97.5
Q14.	98.7
Q15.	96.2
Q16.	96.2
Q17a.	100 J.S.
b.	100 J.S.
c.	100 J.S.
d.	98.7 J.S.
e.	98.7 J.S.
f.	100 J.S.
g.	98.7 J.S.

Unit VI-D

Q 1a.	95.4
b.	98.5
c.	90.8
d.	80.0
e.	95.4
f.	81.5
g.	93.8
h.	92.3
i.	86.2
j.	89.2
k.	89.2
l.	96.9
m.	96.9
n.	92.3
o.	90.8
p.	92.3
q.	90.8
Q 2a.	98.5
b.	100
c.	100
d.	98.5
e.	98.5
f.	98.5
Q 3a.	96.9
b.	98.5
c.	98.5
Q 4a.	89.2
b.	89.2
c.	86.2
d.	81.5
e.	72.3*
Q 5.	100, n.r./A.S.
Q 6a.	100, n.r./J.S.
b.	J.S.

Unit VII-D

Q 1a.	97.8
b.	95.6
c.	86.7
d.	86.7
e.	77.8*
f.	84.4
g.	77.8*
h.	68.9*
Q 2.	71.1*
Q 3a.	95.6
b.	100
c.	95.6
d.	88.9
Q 4a.	88.9
b.	88.9
c.	97.8
d.	95.6
e.	95.6

Q 4f.	88.9
g.	95.6
h.	86.7
i.	88.9
j.	82.2
k.	88.9
Q 5a.	93.3
b.	95.6
c.	88.9
Q 6a.	95.5 J.S.
b.	95.5 J.S.

Unit VIII-D

Q 1a.	92.9
b.	98.8
c.	90.5
d.	98.8
e.	90.5
f.	97.6
g.	91.7
h.	91.7
i.	100
j.	89.3
k.	92.9
l.	96.4
m.	96.4
n.	97.6
o.	95.2
p.	95.2
q.	98.8
r.	92.9
Q 2a.	89.3
b.	95.2
c.	96.4
d.	92.9
Q 3a.	90.5
b.	83.3
c.	77.4*
Q 4a.	100
b.	97.6
c.	91.7
d.	97.6
e.	98.8
f.	94.0
Q 5a.	90.5
b.	91.7
c.	91.7
d.	85.7
Q 6a.	85.7
b.	81.0
c.	77.4*
d.	75.0*
Q 7.	76.2*
Q 8a.	86.3 J.S.
b.	86.3 J.S.
c.	86.3 J.S.

Unit IX-D

Q 1a.	100
b.	100
c.	100
d.	83.3
e.	100
f.	100
g.	91.7
h.	75.0*
i.	75.0*
j.	75.0*
k.	75.0*
l.	100
m.	66.7*
n.	91.7
o.	100
p.	83.3
q.	100
Q 2a.	83.3
b.	75.0*
c.	91.7
d.	75.0*
e.	50.0*
Q 3a.	91.7
b.	91.7
c.	100
d.	91.7
e.	100
f.	91.7
g.	91.7
h.	100
i.	100
j.	83.3
k.	91.7
l.	91.7
m.	100
n.	8.3*
o.	100
p.	91.7
Q 4a.	66.7*
b.	91.7
c.	58.3*
d.	66.7*
e.	91.7
f.	75.0*
g.	100
h.	91.7
i.	41.7*
j.	91.7

Q 4k.	100
l.	16.7*
m.	50.0*
n.	100
o.	100
p.	41.7*
q.	91.7
r.	100
s.	100
t.	75.0*
u.	91.7
v.	50.0*
w.	100
x.	100
y.	75.0*
z.	91.7
aa.	83.3
bb.	75.0
cc.	83.3
Q 5a.	75.0*
b.	58.3*
c.	50.0*
d.	50.0*
e.	58.3*
f.	50.0*
g.	50.0*
h.	41.7*
Q 6.	50.0*
Q 7a.	58.3*
b.	25.0*
c.	0*
d.	50.0*
e.	75.0*
f.	100
g.	83.3
h.	33.3*
Q 8a.	33.3*
b.	33.3*
c.	25.0*
d.	16.7*
e.	8.3*
Q 9a.	91.7
b.	83.3
c.	75.0*
d.	75.0*
e.	75.0*
f.	66.7*
g.	58.3*
h.	58.3*
i.	58.3*
j.	58.3*
Q10a.	83.3
b.	91.7
Q10c.	91.7
d.	91.7
e.	83.3
f.	75.0*
g.	100
h.	91.7
i.	100
j.	75.0*
k.	41.7*
l.	91.7
m.	100
n.	91.7
o.	83.3
p.	91.7
q.	91.7
r.	83.3
Q11a.	100
b.	100
c.	100
d.	100
e.	100
f.	100
g.	100
h.	100
i.	91.7
j.	83.3
k.	91.7
l.	91.7
m.	100
n.	91.7
o.	100
p.	100
q.	100
r.	100
s.	100
t.	100
Q12.	n.u./A.S.

CORRESPONDENCE

This section contains copies of the unit evaluation form and letters which were sent to the health services careers instructors and their administrators.

OKLAHOMA STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION
FRANCIS TUTTLE, DIRECTOR • 1515 WEST SIXTH AVE., • STILLWATER, OKLAHOMA 74074 • A.C. (405) 377-2000

September 7, 1979

Dear Health Service Careers Instructor:

The State Department of Vocational and Technical Education hopes the Health Service Careers manual will be of great assistance to you in your teaching experiences. We feel that the validity of the content is assured because of the extensive use of validation committees throughout the development of the manual. However, we recognize the need for validation of the manual in terms of student achievement. Therefore, we are administering a research study to see if the manual is helping the student to meet the designated performance objectives.

The Research Coordinating Unit of the State Department of Vocational and Technical Education is in the process of selecting teachers to participate in the validation. Selection of teachers will be partially based on when the units will be taught during the 1979-80 school year.

Enclosed you will find a copy of the Health Service Careers table of contents. Please take a few minutes to list the approximate dates you plan to teach each unit. In order to facilitate the research study, we are asking that you return the enclosed table of contents by September 17, 1979. A self-addressed, stamped envelope is provided for your convenience.

Your input in this study is extremely important and necessary for any future revisions. Should you be selected, you may rest assured that the recordkeeping will be minimal. We are looking forward to hearing from you.

Sincerely,

Sheila Stone

Sheila Stone, Assistant Coordinator
Research Coordinating Unit

Jamee Sloan

Jamee Sloan, Health Occupations Curriculum Specialist
Curriculum and Instructional Materials Center

Enclosure

SS/5510/7

HEALTH SERVICE CAREERS

Please write the approximate date you plan to teach each of the following units.

Section A--Orientation

Unit I	Health Careers	1-A	_____
Unit II	Career Success	37-A	_____
Unit III	HOSA	113-A	_____

Section B--Health and First Aid

Unit I	Personal Health	1-B	_____
Unit II	Community Health	31-B	_____
Unit III	First Aid	59-B	_____

Section C--Body Structure and Function and Applied Skills

Unit I	Microbiology	1-C	_____
Unit II	Basic Concepts of Physical Sciences	29-C	_____
Unit III	Endocrine System	53-C	_____
Unit IV	Genitourinary System	75-C	_____
Unit V	Respiratory System	143-C	_____
Unit VI	Musculoskeletal System	189-C	_____
Unit VII	Nervous System	231-C	_____
Unit VIII	Digestive System	291-C	_____
Unit IX	Circulatory System	355-C	_____

Section D--Basic Health Assistant Skills

Unit I	Nutrition	1-D	_____
Unit II	Patient Cleanliness	55-D	_____
Unit III	Patient Environment and Bedmaking	95-D	_____
Unit IV	Body Mechanics and Positions	129-D	_____
Unit V	Vital Signs	193-D	_____
Unit VI	Medical Asepsis	239-D	_____
Unit VII	Surgical Asepsis	259-D	_____
Unit VIII	Isolation Technique	289-D	_____
Unit IX	Observation and Recording	313-D	_____

Return to: Sheila Stone, Assistant Coordinator
Research Coordinating Unit
State Department of Vocational and Technical Education
1515 West Sixth Avenue
Stillwater, OK 74074

OKLAHOMA STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION
FRANCIS TUTTLE, DIRECTOR • 1515 WEST SIXTH AVE., • STILLWATER, OKLAHOMA 74074 • A.C. (405) 377-2000

October 9, 1979

MEMORANDUM

TO: Area School Administrators and Local Directors

FROM: Sheila Stone, Assistant Coordinator
Research Coordinating Unit

SUBJECT: Field Tests of Curriculum Manuals

The Curriculum and Instructional Materials Center and the Research Coordinating Unit of the State Department of Vocational and Technical Education are conducting field tests of the following curriculum manuals: Welding, Auto Mechanics I, Drafting, Health Services Careers, Nursing I, Family Living, Occupational Child Care, Agriculture Livestock Skills, Vocational Agriculture IV, and Interdisciplinary Cooperative Education. The purpose of these field tests is two-fold: 1) to validate the manuals in terms of student achievement of the performance objectives as stated in the curriculum and 2) to gather input from instructors to use in future revisions of these manuals.

Enclosed please find a copy of the letter which has been sent to all Oklahoma auto mechanics instructors. Similar letters have been sent to instructors using the other nine manuals. Due to an oversight, you were not notified of this project beforehand. We hope this has not caused you any inconvenience. Your support of this project is vital for its success.

We are in the process of selecting teachers for the field tests and would appreciate any encouragement you could give to your instructors to participate. In developing the procedures, we tried to work out a process that would not increase the teacher's workload. The assumption was made that the tests would be administered as they are in the manuals and that these tests would be graded item by item. The information we need on a student is his or her ability to answer a given item correctly. Therefore, we need to obtain the student tests graded to indicate right or wrong answers on each test item. Teachers may add or delete test questions, weight the items for a total score, or use any other procedures they normally use in testing. Each student will be assigned a number by the teacher to be used throughout the field test. The student should write that number in the upper left corner of the test instead of her or his name. Each school will also be assigned a number to be used for identification purposes.

Teachers will be asked to participate on approximately six units. A self-addressed, postage-paid envelope will be provided for each unit. A teacher evaluation form will also be provided for each of the six units. This form should take no more than five or ten minutes to complete and will be invaluable to the Curriculum and Instructional Materials Center in the development and revision of future manuals. A copy of this evaluation form will be sent to you as soon as it is available.

I hope this explanation will give you sufficent information about the project. If you have any questions, please feel free to call me at the State Department.

cc: Regional Administrators

SS/7626/10

Votech
OKLAHOMA STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION
FRANCIS TUTTLE, DIRECTOR • 1515 WEST SIXTH AVE., • STILLWATER, OKLAHOMA 74074 • A.C. (405) 377-2000

MEMORANDUM

TO:

FROM: Sheila Stone, Assistant Coordinator
Research Coordinating Unit SS

Thank you for agreeing to participate in the validation of the Health Service Careers manual. Without your cooperation, this study could not be done.

In developing the procedures, we tried to work out a process that would not increase your workload. The assumption was made that the tests would be administered as they are in the manuals and that these tests would be graded item by item. The information we need on a student is his or her ability to answer a given item correctly. Therefore, we need to obtain the student tests graded to indicate right or wrong answers on each test item. You may add or delete test questions, weight the items for a total score, or use any other procedures you normally use in testing. We are also asking that you indicate the student's performance on each assignment and job sheet. These performance objectives are listed at the end of each test.

An item by item analysis will be made from all student tests. Those items answered correctly by most of the students will indicate that the items are properly covered in the manual. Those items which the majority of the students answer wrong will indicate specific weaknesses in the manual. The school and students will be assigned numbers for identification purposes; no names will be recorded. All tests and assignment sheets will be returned to you.

A self-addressed, postage-paid envelope will be provided for each unit. The label in the lower corner of the envelope indicates what components of that unit need to be sent to us. In most cases, we require only the tests and completed evaluation form.

The steps to follow for field testing the units are attached for your convenience. We have also included a table of contents that specifies which units you will be validating. Keep these sheets available for future reference.

Thank you again for your cooperation. I would be happy to answer any questions you may have as the field testing progresses. Feel free to call or write to me at any time.

Enc.

SS/7521/8

STEPS TO FOLLOW WHEN FIELD TESTING UNITS

1. Assign each student a number (between 1 and 99) to be used throughout the field test. The school number and student number should be written in the upper left corner of the first page of the test and on any assignment sheet we may request. Your school number is ☐

2. Teach the unit in your normal manner.

3. Administer the unit test from the curriculum manual.

4. Check (✓) each incorrect item on the test, preferably in red.

★ 5. Mark the performance items listed at the end of each test as follows:

   a. Mark "OK" on the performance objectives the student performed satisfactorily.

   b. Check (✓) those items that were not performed satisfactorily.

   c. Write "Not Used" or "Group Activity" where applicable.

6. Complete the unit evaluation form. Please be specific in your comments. This is your opportunity to tell what you like or dislike about the unit. We welcome your opinions.

7. Mail tests and unit evaluation form to our office, using our return envelope. We will record the data and mail the tests back to you within two weeks after we receive them. The evaluation form will be used by the Curriculum and Instructional Materials Center for future revisions.

We would appreciate your participation on the following units. Also, if you have access to any of the unit tests given in August or September, please write the school number and student number on each one and send them in the extra envelope provided. Any inconvenience you may experience now should result in quality curriculum manuals and will benefit all of the programs in the future. Thanks again for helping us.

HEALTH SERVICE CAREERS

Table of Contents

Section A--Orientation		You are responsible for:
Unit I	Health Careers	1-A_____
Unit II	Career Success	37-A_____
Unit III	HOSA	113-A_____
Section B--Health and First Aid		
Unit I	Personal Health	1-B_____
Unit II	Community Health	31-B_____
Unit III	First Aid	59-B_____
Section C--Body Structure and Function and Applied Skills		
Unit I	Microbiology	1-C_____
Unit II	Basic Concepts of Physical Sciences	29-C_____
Unit III	Endocrine System	53-C_____
Unit IV	Genitourinary System	75-C_____
Unit V	Respiratory System	143-C_____
Unit VI	Musculoskeletal System	189-C_____
Unit VII	Nervous System	231-C_____
Unit VIII	Digestive System	291-C_____
Unit IX	Circulatory System	355-C_____
Section D--Basic Health Assistant Skills		
Unit I	Nutrition	1-D_____
Unit II	Patient Cleanliness	55-D_____
Unit III	Patient Environment and Bedmaking	95-D_____
Unit IV	Body Mechanics and Positions	129-D_____
Unit V	Vital Signs	193-D_____
Unit VI	Medical Asepsis	239-D_____
Unit VII	Surgical Asepsis	259-D_____
Unit VIII	Isolation Technique	289-D_____
Unit IX	Observation and Recording	313-D_____

Instructor's Name:_____

UNIT EVALUATION FORM

School Number _____ Unit Name _____

We need your help? Is the CIMC curriculum material useful in meeting your program objectives? What needs to be improved? How can we improve it? What needs to remain the same?

Directions: Please comment on each component with regard to your major reasons for using or not using that part of the unit. If your reason corresponds with one of the statements on the attached sheet, place the number of the statement in the space provided.

Did you use:	Please check the appropriate column below			Statement Number	OTHER COMMENTS
	Yes	No	In Part		
Unit of Instruction					
Objectives Page					
Suggested Activities					
Information Sheets					
Transparencies					
Assignment Sheets					
Answers to Assignment Sheets					
Job Sheets					
Test					
Answers to Test					

What are the most needed changes in this unit? What suggestions do you have for making the changes? _____

The Oklahoma State Department of Vocational and Technical Education does not discriminate on the basis of race, creed, color, national origin, sex, age, veteran status, qualified handicap or disability.

Examples of Constructive Comments

Note: We need constructive feedback if we are to improve CIMC products. It is very important that we know <u>why</u> something is acceptable or not acceptable.

1. Effective in helping students to learn
2. Ineffective in helping students to learn

3. Facilities and equipment readily available or unnecessary
4. Facilities and equipment unavailable or inappropriate

5. Too elementary for student; too easy
6. Too advanced for student; too difficult

7. Lack available resources (e.g. films, supplementary materials, budget)
8. Have adequate or abundant resources

9. Have better materials available
10. Is the best available material

11. Incomplete
12. Complete

13. Current/up-to-date
14. Out-of-date/behind the times

15. Written in logical order; well-sequenced
16. Not logically written; sequencing poor

17. Thought-provoking
18. Unstimulating/unimaginative

19. Motivating
20. Unmotivating

21. Needed for successful employment
22. Unnecessary

23. Biased/stereotyped
24. Unbiased/not stereotyped

25. Easy for teacher to use
26. Difficult for teacher to use

27. Confident of technical knowledge myself
28. Lack technical knowledge/background/work experience

OKLAHOMA STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION
FRANCIS TUTTLE, DIRECTOR • 1515 WEST SIXTH AVE., • STILLWATER, OKLAHOMA 74074 • A.C. (405) 377-2000

January 31, 1980

MEMORANDUM

TO:

FROM: Sheila Stone, Assistant Coordinator
Research Coordinating Unit SS

JUST A REMINDER . . . . .

that we still need your cooperation in the Health Service Careers field test. This field test is being conducted now so that you will have quality materials for your program in the years to come. Won't you please help us help you???

The steps to follow when field testing the units are listed below. You should have received the return envelopes and unit evaluation forms in the past few months. If you have any questions or comments, please don't hesitate to call me at (405) 377-2000, extension 251. Thank you!!!

1. Assign each student a number (between 1 and 99) to be used throughout the field test. The school number and student number should be written in the upper left corner of the first page of the test and on any assignment sheet we may request. Your school number is _____.

2. Teach the unit in your normal manner.

3. Administer the unit test from the curriculum manual.

4. Check (✓) each incorrect item on the test, preferably in red.

*5. Mark the performance items listed at the end of each test as follows:

   a. Mark "OK" on the performance objectives the student performed satisfactorily.

   b. Check (✓) those items that were not performed satisfactorily.

   c. Write "Not Used" or "Group Activity" where applicable.

6. Complete the unit evaluation form. Please be specific in your comments. This is your opportunity to tell what you like or dislike about the unit. We welcome your opinions.

7. Mail tests and unit evaluation form to our office, using our return envelope. We will record the data and mail the tests back to you within two weeks after we receive them. The evaluation form will be used by the Curriculum and Instructional Materials Center for future revisions.

EQUAL OPPORTUNITY AFFIRMATIVE ACTION EMPLOYER